



**SCHOOL OF ENGINEERING  
AND TECHNOLOGY**

A PURDUE UNIVERSITY SCHOOL  
Indianapolis

**STAFFING THE WOODWARD  
ACADEMY HOUSEKEEPING TEAM**

A Capstone Project Final Report

Submitted to the Faculty

of

Purdue School of Engineering and Technology  
Indianapolis

by

Thomas R. Owenby

In partial fulfillment of the requirements for the

Degree of Master of Science in Technology  
Facilities Management Option

**Committee Member**

**Approval Signature**

**Date**

David W. Goodman,  
Co-Chair  
Engineering Technology

\_\_\_\_\_

\_\_\_\_\_

Matt V. Ray,  
Co-Chair  
Facilities Management

\_\_\_\_\_

\_\_\_\_\_

Marjorie R. Hovde,  
Technical Communication

\_\_\_\_\_

\_\_\_\_\_

## **Abstract**

The determination of success for a housekeeping department for an educational institution includes both equipping and training the appropriate size staff within the department and meeting established expectations for assigned spaces and buildings. These two items are linked by the amount of space to be cleaned and the level and frequency of the cleaning activities required.

Woodward Academy was founded in 1900 in College Park, Georgia. The majority of academic spaces on the campus are less than 20 years old. The primary focus of the housekeeping department on the campus has been the classrooms and the restrooms. The current staffing level for the housekeeping department may not be adequate to meet the needs of the administration and faculty. A facility building and space audit needs to be completed for the campus. There is no record of an audit on file from the previous ten years.

Each building on the two campuses located in College Park, GA will be audited, both for cleanable space, and categorization of space. Then, each space will be assigned a frequency of cleaning and a level of cleanliness to attain, using standardized cleanliness level descriptions. These decisions will be made following a survey of the building owner and/or department head with the facilities department. This data, combined with an industry standard space category matrix, will yield a recommended staffing level, based upon the time required to complete routine cleaning activities within each space. Finally, this recommended staffing level will be compared to the current staffing level, to determine the variance. Based upon that variance, recommended changes will be identified and/or recommendations for further investigations will be provided.

## **Introduction**

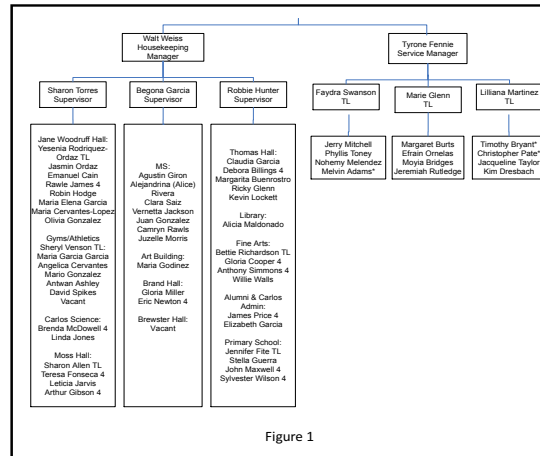
Woodward Academy is a private, college preparatory school located in College Park, Georgia. It was established in 1900 as a boarding school for boys, with the name of Georgia Military Academy. At that time, the curriculum was based on preparation for success in the military (an ROTC – Reserve Officer Training Corps – model). With only 16 students and three teachers, it was not a large school. However, the mission of the Academy must have resonated with the local population, as the school prospered and grew quite large. It began with one building and 5 acres of land. The current campus boasts 3 campuses, 38 buildings and over 130 acres of total space. Over the course of the last 100+ years, the levels of cleanliness, the total amount of space, the types of spaces and the uses of the spaces has changed dramatically. In fact, in 1966, the mission of the school evolved into a college preparatory focus and the military training was discontinued.

The academy is divided into 5 separate schools, Upper, Middle, Lower, Primary and North. Each of these schools are led by a Principal. All of these schools, and including the Athletics Department, report to a Senior Vice President for Academic Affairs and Student Life. Additionally, many other buildings house separate support or auxiliary functions, which report to one of the other Vice Presidents.

Although the school has always had personnel tasked with maintaining the buildings, classroom spaces and grounds, many times, the personnel who performed the management of the facilities program was not full time and/or had additional duties, whether in the classroom or as a business administrator. Facility Management, as a profession, is a relatively new career field. As such, the establishment of a custodial or housekeeping crew may have been based on a reactionary basis and not in a proactive manner to meet established standards.

Currently, there are two groups of employees who perform building services in the Facilities Department. The first group is the day-shift (Custodial), and they perform mostly custodial services. These duties include maintaining the restrooms, lunch rooms and common areas in a state suitable for learning. The second group is the night-shift (Housekeeping), and they perform the housekeeping activities to return those same

spaces back to an acceptable level for the next day. The day-shift is comprised of a manager and fifteen (15) employees, and the night-shift includes one (1) manager, three (3) supervisors, and forty-seven (47) employees (see figure 1).



## Problem Statement

In the past six years, additional buildings have been built and additional responsibilities have been placed on the services department, with regards to supporting athletic events, outside agency special events, summer programming and internal meetings and seminars. The current organizational structure may not be capable of supporting all of these non-standard requirements, while maintaining the levels of cleaning required for the primary mission.

However, at this time, it is not known how the current staffing level was determined for the school. Nor is there a space inventory (to include size and number of rooms, type of space or required cleaning level) readily available. Without this information, it is difficult to determine how to handle requests for these recurring non-standard requests for support. What may result is that much of the housekeeping work may be performed on a reactionary basis. In general, reactive work is less effective and costlier (in time and money) than work performed based on a proactive plan. This project will attempt to standardize work performed in each category of space, perform a building/space audit, and conduct a stakeholder/decision maker survey to create a framework to evaluate the current staffing level for the Housekeeping department (or night-shift).



## **Significance**

The housekeeping function, within the Facilities Management list of duties, is not often executed in view of a customer, but often provides the best evidence that a space was maintained. The success of proper housekeeping is also not easily quantified. And even if an institution does quantify cleanliness standards, customers are not often aware of the standard, nor that there might be a frequency, other than daily, for task performance. Without a metric to evaluate the staffing level required to meet certain quantifiable job tasks, acquiring and maintaining a staff capable of providing any “required” level of service will be very difficult. Additionally, on many campuses (at both K-12 institutions and higher) Facility Management personnel are under the supervision of a Chief Financial Officer, or some level of business officer/administrator. Validating an organizational structure will be more successful when objectives are identified and data is made available to justify the necessary staffing levels or establishing a case for additional resources.

## **Literature Review**

As a college-preparatory, private, K-12 educational institution, the importance of a conducive learning environment to our stakeholders cannot be overstated. The cleanliness of the classrooms, hallways and restrooms is a very visual indicator of the state of the facility. According to Campbell (2008), “if educational institutions are to provide the best environment in which students can learn, they would be well advised to staff at a level that will provide an acceptable level of cleanliness that will contribute to student learning and health and not detract and distract from that critical goal” (p. 36). What is that “acceptable” level of cleanliness and how does that affect the number of staff required for the spaces to be cleaned?

In one county in Florida, the school system has used a basic formula to determine what the staffing requirement should be in their schools. That formula uses only one metric, cleanable square feet. “For custodians, Polk County uses a base formula of 1.8 man-hours for every 1,000 square feet of cleanable space. Other duties

call for more staffing. For instance, a school with a breakfast program will have five more hours of custodial time, and a portable classroom and restroom will add two hours a week (Kennedy, 2010, p. 2). In this way, an institution can use a base formula for the majority of their custodial needs, and make adjustments for special cases and unique program requirements. An important consideration is that many custodial staffs do not merely perform cleaning activities. Depending upon the size of the institution, custodial staffs may also perform grounds keeping tasks, light maintenance tasks and even some security tasks. These additional tasks can make the determination of an appropriate staffing size more difficult due to the fluid and non-routine nature of the work to be performed by a custodial team.

The time of day in which cleaning activities are scheduled can have an impact on the effectiveness of any housekeeping operation. The custodial activities that can be successfully completed at the end of a normal business day in a traditional nine-to-five office setting looks quite different than in an educational setting. “When custodians cleaned during the day, they were often asked to come back at another time because they were interrupting customers working at their desk or holding meetings. Consequently, cleaning was inefficient and some spaces did not always get cleaned” (Payant, 1992, p. 6). Within any institution there will be certain customers and/or activities that will require specific cleaning activities that may not align with the custodial shift that is followed elsewhere on the campus. This will require planning and communications with those customers to identify the needs and the manner in which the custodial staff will meet those needs.

Another reason to look at the importance of determining the proper staffing level for an institution is in the cost of labor. Many times, the staffing level in the Facilities Department is higher in both budget cost and in number of employees for the custodial team. In fact, according to Jenson (2015), “too many [Environmental Science] departments base their staffing on nonempirical data and information. They rely on employee feedback, the managers’ gut feelings for workload, an end-users’ demand for availability or other non-value-based criteria” (p.2). His recommendation is to use established industry methodologies to determine staffing levels or workloads using four factors. These factors are Cleanable Square Footage (CSF), frequency of cleaning,

lock-in areas (employee remains in one location throughout shift for as-needed help) and space classification. Using these categories, a data-based staffing schedule can be developed for any healthcare organization. There are certainly some differences between healthcare and educational institutions, but there are also some strong similarities that would benefit institutions of any type when evaluating the staffing of their custodial departments.

## **Definitions**

**Custodial vs Housekeeping duties** – Custodial duties are normally provided for by our Day Shift personnel. The duties include stocking restrooms, maintaining dining facilities during lunch times and reacting to emergencies at each area of the campus.

Housekeeping duties are normally provided by the Night Shift personnel and include vacuuming, cleaning restrooms and wiping down student desks when the buildings are unoccupied by daytime users.

**Gross Square Feet (GSF) vs Cleanable Square Feet (CSF)** – Most times, square footage assessments are described by gross square feet calculations. This is normally because it is a readily available number indicated on building plans by architects or building departments. Removing housekeeping closets, mechanical spaces and/or utility rooms which do not need frequent cleaning provides a more accurate metric for determining staffing requirements. This lower, calculated number is referred to as Cleanable Square Feet (CSF).

**Full time equivalent (FTE)** – A mathematical representation of one person's working capability, measured in hours. For this report, a FTE is equivalent to 420 minutes or 7 hours of work performed (an 8-hour shift minus 2-15 min breaks and 1-30 min lunch).

**Hard surface vs carpet** – There are two standard types of floor surfaces that are present in most building types. Carpet, which requires a vacuum to clean, and any type of hard surface flooring. Hard surface types include sealed or polished concrete, tile, sheet products (like linoleum) and vinyl composite tile.

**Stakeholders** – For this report, the stakeholders are primarily any user of the building spaces that may be affected by the cleanliness of the building. For simplicity, I am

assuming that the building owner comments during the survey interviews is aware of and made known any comments about the building spaces to me.

**Building owner** – The senior Academy employee in the building, in most cases, the school principal.

## **Purpose**

The purpose for this project is to evaluate the school's current staffing level for the Housekeeping department. This will require three steps. The first step will involve compiling the building/room data from floor plans, to include size and category. The second step will be interviews with the building owners. This interview will be conducted to inform the building owner of the staffing level audit/project, and to request any historical feedback on housekeeping operations. The third step will include gathering data from the existing housekeeping management team. This information will include the number of employees and the hours worked in each building included in the audit (an FTE calculation). Finally, by utilizing industry standards for distinct cleanliness levels (see Appendix A) and setting a specific level for each room category, the time required to perform all listed cleaning activities in each space can be determined. By summing the time requirements for each room category, in each building, the recommended FTE (or staffing goal) will be provided.

## **Assumptions**

1. 9-month school year = regular schedule
2. Will not include special events, athletic games or other meetings and set-ups, due to lack of accurate data for previous events (such as number of chairs, tables, size of space and length of event)
3. Utilize similar duties/responsibilities for all FTE staffing positions
4. Does not include custodial work performed by our day shift
5. Does not include sinks other than restroom sinks (based on the daily use and location of other sinks (art room, science lab, etc...), following this project, and successful

completion of routine housekeeping duties, these other sinks can be included a follow-on audit at a later time.

## **Scope**

The Woodward Academy campus includes 38 buildings on three campuses. The main campus is located in College Park and includes 33 buildings on 102 acres. Within this campus, there are some buildings that are not cleaned on a regular basis, or do not have restrooms that need to be stocked and monitored. During the audit step of the project, I identified some buildings that were cleaned by the daytime custodial staff during the day, due to occupant considerations and scheduling conflicts. This reduced the number of buildings to examine down to fifteen (15) total buildings. These buildings represent 60% of the total square footage of building space on the main campus.

The second campus is also within the City of College Park and includes the Primary School (which houses the Pre-Kindergarten through 3<sup>rd</sup> grade programs). There is one building situated on 5 acres and it will be included in the project.

The third campus is located in Johns Creek, Georgia (approximately 1-hour north of the College Park campus). This campus has its own housekeeping/custodial staff to maintain the three buildings and a residence. Because of the physical distance involved, the decision to staff this campus separately was made many years ago. As such, the buildings which comprise the Woodward North campus will not be included in the scope of this project.

## **Methodology**

The first step includes determining which buildings to include in the audit. The larger, academic buildings are the primary focus for this project. Those buildings have the heaviest traffic, and they also have the largest need for housekeeping activities to return them to an acceptable state for the following day. These buildings are listed in figure 2.

Next, the category of each room type needed to be defined. Since there is a need to standardize the components of a room in order to align a space category with the APPA matrices, I used the same name that was used in the matrices, for simplicity. Next was the audit of each building to include the size and category of each space to be cleaned. The room categories and titles for each space are listed in figure 3. Each building, along with the CSF and number of rooms, by category, can be found in Appendix C.

#	Name
1	Primary School
2	Lower School
3	Middle School Classroom
4	Middle School Art
5	Middle School Dining
6	Jane Woodruff Hall
7	Moss Hall Math and Science
8	Carlos Science
9	Brand Hall
10	Carlos Library
11	Woodruff Dining Hall
12	Carlos Admin
13	Campfield
14	Facilities Building
15	Student Transport

Figure 2

Next, a survey of building owners will be conducted to determine required level of cleanliness for all spaces in their building (see sample survey in Appendix D). Then, the

Room type
Cafeteria (hard floor)
Classroom (carpet)
Classroom (hard floor)
Entryway
Library (carpet)
Locker/changing room
Infirmery (including exam rooms)
Office (carpet)
Office (hard floor)
Public hallway (carpet)
Public hallway (hard floor)
Stairwell
Utility
Individual restrooms
Multi-fixture restrooms

Figure 3

cleanliness level is assigned to each room category and is used, along with the entry argument of CSF by room type, to extract an FTE from the APPA Matrices (see Appendix E). Then each room category, and each building and finally, all fifteen buildings can be summed to provide the recommended FTE staffing level to meet the assigned cleanliness level for the campus. The FTE requirements for all of the buildings can be found in Appendix F. Finally, these recommendations need to be compared to the current staffing level for these buildings to determine any differences (see Appendix G).

## Results

One of the lasting goals for this project is to create, not only an analysis of current buildings and the staffing requirement for each building, but also to create a living document that is easy to update as the campus or individual building use changes. For that reason, in Appendix C, the number of rooms on each floor and the number of toilets, urinals and sinks on each floor were included. Even though the entry

argument for the staffing level matrices is cleanable square footage by building, it is beneficial to have a breakdown of other major components of a building that can be assigned to an individual as part of their area of responsibility. Although the CSF by room category tables are large, the data from the audit for the Primary School is shown in Table 1.

The next step was the most time-consuming portion of this project. Our facilities department maintains an archive of building plans for each building on our campus, to include original construction documents and later renovations. Many of the newer projects, those constructed after

PRIMARY SCHOOL		
<u>Room type</u>	CSF	# Rms
Cafeteria (hard floor)	6311/0	1/0
Classroom (carpet)	8750/13796	10/16
Classroom (hard floor)	3826/0	4/0
Entryway	774/0	1/0
Library (carpet)	0/2571	0/1
Locker/changing room	295/0	2/0
Infirmery (including exam rooms)	106/0	1/0
Office (carpet)	1557/1962	9/5
Office (hard floor)		
Public hallway (carpet)	3808/3674	1/1
Public hallway (hard floor)		
Stairwell	319/319	2/2
Utility	205/0	1/0
Individual restrooms	1101/311	17/5
<u>Multi-fixture restrooms</u>	395/464	2/2
Toilets	N/A	21/13
Urinals	N/A	2/3
<u>Sinks</u>	N/A	24/18
Floors	N/A	2
Total CSF 27128/22778		49906 SF

Table 1

2000, have within these plans an identification of spaces with the corresponding size. The definition of cleanable square footage is rather straightforward. Each space that receives daily and weekly attention by a housekeeping or custodial employee is included in the CSF category. Some of the spaces that are not included are Information Technology closets, housekeeping closets, mechanical spaces and other storage rooms. Each of these new buildings then had to have a determination made of the type of space and then the data entered and summed to get a total CSF number for use with the Full Time Equivalent (FTE) matrices. A few of the buildings in the audit were older than 2000, and their construction plans did not have the same level of detail. These buildings required the use of a scale to determine the size of the rooms and then the same process was used to display this data in Appendix C.

The next step was to identify and interview the building owners. For the academic divisions, the obvious choice for the “owner” were the school principals. There were four that were interviewed, for the Primary School, Lower School, Middle School and the Upper School. The department heads for Athletics and Student Transport were interviewed for their buildings, respectively. Our Administration building houses the

president of the school and three vice-presidents. The Vice President for Finance and Administration was interviewed for this building.

During this process of interviewing the building owners, a discovery was made which changed the number of buildings that were used for the project. The owner of the largest “building,” our Athletic Complex indicated that he would prefer some of the cleaning (housekeeping) activities to occur during the day. This would require more work from our dayshift, who normally performed custodial activities, instead of housekeeping activities. The reason for this was that most of the activities in this building did not end until almost halfway through the evening shift.

The extracurricular activities, like practices, meetings and games did not start until 4pm and concluded between 7pm and 9pm. He asked whether we could perform the floor care activities during the day and the restroom and locker room cleaning at the end of our evening shift. For similar reasons, the Upper School principal asked for the same cleaning provision for our 2<sup>nd</sup> largest building, the Fine Arts center. Because of this request, these two buildings were removed from the audit. The space audit/FTE determination needed to have the current staffing level for the same building and space for comparison purposes. Project work aside, before this request can be acted upon, there will need to be further investigation into these two buildings to ensure a proper space audit is done and cleanliness levels are identified, so that the work and FTE is appropriately divided between the two shifts.

#### APPA Levels of Cleanliness

1. Orderly Spotlessness
2. Ordinary Tidyness
3. Casual Inattention
4. Moderate Dinginess
5. Unkempt Neglect

Figure 4

There were two purposes for conducting these building owner interviews. The first one was to solicit feedback from the owner on the current state of the building and any issues with housekeeping in general. The second purpose was to discuss the APPA levels of cleanliness (see figure 4), which were included in the survey that each owner received prior to the interview (see

Appendix D). On this survey form, the types of spaces in each building were listed and the owner was asked to rank these spaces in priority level. Each owner was very pleased to be invited to provide feedback for this project. After discussing the APPA Cleanliness levels with each owner, it was a unanimous selection for restrooms and



infirmaries to be listed as a Level 1. Stairwells were singled out as the only room type to be included as a Level 3. All other spaces were requested to be at a Level 2 before the beginning of each school day.

The next step was to calculate the FTE requirement to clean the spaces to the level required by the building owners using the APPA matrices from the Operational Guidelines for Educational Facilities (see Appendix E). Each space category is identified by a descriptive name and may include a specific floor type. Different flooring types can have a significant effect on the cleaning time required for different cleanliness levels. The first page of each room type depicts a “standard” room layout and the equipment, furnishings and size. This information is used to help identify the type of room and which matrix is most appropriate to use.

The second page is a matrix that lists the routine cleaning activities for each space along the left-hand column and the cleanliness levels across the top of the chart. Using the entry argument of cleanliness level required, the amount of time needed to maintain the space can be extracted. This amount of time is based on the standard room size listed on page one for each space category. Using CSF as a secondary entry argument, an adjusted amount of time required can be determined. There are some room types, like cafeterias and washrooms that do not include data in cleanliness levels 3- 5, due to the nature of the use of those spaces. The APPA Guidelines do not recommend cleanliness levels to drop below a level 2.

In Appendix F, the data from the building audit was combined with the required cleanliness levels, as indicated by the building owners, into a Staffing Level FTE calculation using the APPA standard matrices. There are two charts that are included in the appendix. The first one uses the CSF data from each building, and then uses the cleanliness level to determine the required

APPA Standard Space	Total CSF	Standard Space		CSF per FTE	APPA FTE
		Cleanliness Level			
Cafeteria with hard floor	43100	2		19145	2.25
Classroom with carpet	158601	2		32931	4.82
Classroom with hard floor	55712	2		22963	2.43
Entranceway	10691	2		9163	1.17
Library with carpet	13491	2		56112	0.24
Locker/changing room	1063	1		14526	0.07
Nursing station with hard floor	2419	1		7389	0.33
Office with carpet	31871	2		30450	1.05
Office with hard floor	4023	2		21007	0.19
Public (circulation) with carpet	21938	2		65703	0.33
Public (circulation) with hard floor	42324	2		27612	1.53
Stairwell	15175	2		22657	0.67
Utility	4751	3		11576	0.41
Washroom	4038	1		2611	1.55
Washroom (heavy use)	13386	1		1328	10.08
	422583	CSF		FTE	27.11

Table 2

FTE. This method is quick and produces a result for the entire campus very easily. The second chart sums up the FTE requirements individually from each space and building. This method produces nearly the same result (minor variation due to rounding errors). However, if different building owners required different levels of cleanliness in certain space categories, this chart would allow that level of customization for customer requirements. A campus summary for this type of calculation is shown in table 2. This table shows that the recommended FTE for the campus is 27.11 and the amount of CSF per FTE is  $422,583/27.11$  or 15,588 CSF/FTE.

Building Name	Staffing	Total hours	FTE
Primary	4	28.0	4.00
Lower	4	28.0	4.00
Middle (Main)	5	35.0	5.00
Middle (Arts)	1	5.5	0.79
Middle (Dining)	4	6.5	0.93
Campfield	1	2.0	0.29
Jane Woodruff	7	38.5	5.50
Moss Hall	4	22.0	3.14
Carlos Science	2	11.0	1.57
Brand Hall	2	11.0	1.57
Carlos Library	1	5.5	0.79
Woodruff Dining	2	4.0	0.57
Carlos Admin	3	7.5	1.07
Facilities Bldg	2	4.0	0.57
Student Transport	3	6.0	0.86
		<b>CURRENT FTE</b>	<b>30.64</b>

Table 3

Finally, the school's current staffing level and time allocated for each building in the audit is shown in table 3. Again, for department future use, the total number of employees and total time spent in each building are listed as the entry arguments for each building and then the FTE is calculated using the same definition as the Operational Guidelines (7 hours of work = 1 FTE). The current staffing level for these 15 buildings is 30.64 FTE.

## Discussion

As mentioned in the preceding section, the number of buildings to include in the audit changed during the building owner interview process, specifically the Athletics building and the Fine Arts building. The remainder of the changes in the buildings to include came about after conducting the space and category audit of several of the smaller office/administrative buildings. After conducting internal interviews within the housekeeping and custodial departments, it was determined that these buildings were cleaned by the custodial (day shift) staff early in the morning before the occupants arrived and the normal school day started. This reduced the number of buildings to include down to 15. These 15 buildings represent the majority of space used by the

academic divisions for conducting classes for our students. These buildings account for 60% of the total space on the campus.

Another interesting discovery was made during the building owner interview process. Since each of our academic divisions is made up of different age groups (Pre-k – 3<sup>rd</sup> grade, 4<sup>th</sup>-6<sup>th</sup> grade, 7<sup>th</sup>-8<sup>th</sup> grade and 9<sup>th</sup>-12<sup>th</sup> grade), there was a thought that the principals might have different expectations for the cleanliness levels of their buildings. This was not the case. The differences in the defined cleanliness levels were discussed with each of them. It was also explained that the difference in levels is primarily a difference in frequency of cleaning actions. A Level 1 space needs attention multiple times each day, a Level 2 space is maintained at least once a day and a Level 3 space is every other day, but at least once a week. Using these guidelines, each building owner set the same expectation for the cleanliness of their building.

Each building owner had one or more specific items that they wanted the staff to know that was not necessarily included in the survey. For the Primary School principal, he asked for extra attention to the outdoor trashcans. The high school principal was concerned about his whiteboards and the Middle School principal was most concerned with the attention given to his infirmary.

Another discovery made while gathering our current staffing schedule for the buildings in the audit, was the amount of time some personnel were used in staffing events and athletic games during the weekdays. The need for overtime personnel to cover these activities on weekends was well known. There are a significant number of events that must be set up, monitored and cleaned up during evenings at our campus throughout the week. We currently pull one supervisor and a few personnel from different buildings to cover these events. This practice puts stress on the other supervisors and personnel in each building, in part due to lack of cleaning, but also just as a disruption.

## **Conclusion**

As shown above our current staffing level for the 15 buildings included in the audit is 30.6 as compared to the APPA recommendation of 27.1. This is approximately

10% higher than the industry standard derived FTE based on the CSF of our buildings. It might be wise to look at the whole campus for comparison. In one of the first steps of the audit, the difference between GSF and CSF for each building was determined. The average difference between the two defined terms was 18%. The total amount of GSF on the main campus is 847,840 GSF. If the original 15 buildings are representative of the remainder of the campus, then there is approximately 695,229 CSF on the Woodward Academy campus. If this number is divided by the CSF/FTE derived from the audit, then the recommended FTE for the entire College Park Campus is 44.6 FTE. Looking back at the organizational chart, the current staffing level for the entire night-shift crew is 47 FTE.

Using these results, it appears that the housekeeping department is not too far from the recommended staffing level using the APPA Guidelines. However, as discussed earlier, not all of the buildings are being maintained by the night-shift and there are events and weekday athletic events that are being serviced by the housekeeping crew. There is a strong case that the evening housekeeping staff is overstaffed, based on this information, in regards to cleaning activities. The fact that the day-shift is performing housekeeping tasks on many of the buildings indicates the need for a follow-on audit and task organization evaluation of the day-shift staff. From the entire department, to include both day-shift and night-shift, there may be an overstaffing in one shift and an understaffing in the other. This could require shifting personnel to handle the housekeeping tasks at the most appropriate time to meet customer requirements.

It is further recommended that the Facilities Department evaluate and establish a smaller, stand-alone group within the evening housekeeping department that will handle non-routine events, meetings and athletic competitions during the week. This would allow most of the evening personnel to work in their assigned spaces, with established routines designed to meet building owner expectations. This new group, when not scheduled for events and games, could easily be equipped and trained to perform non-routine specific cleaning functions in heavily used spaces, following the same guidelines contained in the cleaning matrices.

Although all building owners indicated that they were satisfied with the level of cleanliness provided by the housekeeping department, it is also recommended that the Facilities Department develop and provide a service level agreement to each of the building owners. This agreement will be invaluable in defining what activities will be provided in each type of space for each of the buildings included. Not only will this document what services will be provided, and the frequency of occurrence, but this agreement can also be used as the basis for a supervisor's checklist when conducting internal department inspections.

### **Limitations**

The building/space audit will not take into account physical layout or separation of spaces. Allowances for travel between buildings will not be included in the audit, however, this time and other non-standard time adjustments will be identified and used during the final review of the recommended staffing levels.

## References

- Cambell, J.L., & Bigger, A.S. (2008). Cleanliness and learning in higher education. *Facilities Manager*. Alexandria, VA. Jul/Aug. 28-36.
- Iossifova, A., Hemphill, D., Brest, D. & Albert, S. (2009). Applying APPA guidelines for custodial staffing: The case of Slippery Rock University. *Facility Manager*. Alexandria, VA. Nov/Dec. 28-33.
- Jenson, R. "Environmental services staffing methodologies." (2015, January 7). *Health Facilities Management*. Retrieved from:  
<https://www.hfmmagazine.com/articles/1452-environmental-services-staffing-methodologies>
- Kennedy, M. "Workable formulas." (2010, July 1). *American Schools and Universities*. Retrieved from: <http://www.asumag.com/maintenance/workable-formulas>
- Payant, R.P. & Wells, H.L. *The Georgetown University experience: Reorganization of Custodial Operations*. Retrieved from  
<http://www.appa.org/Files/PDFs/Payant.pdf>
- Best practices for school district facilities and maintenance*. (July 2015). 14-19.  
Retrieved from: <http://gssaweb.org/wp-content/uploads/2015/11/Best-Practices-for-School-District-Facilities-and-Maintenance.pdf>
- How do you stack up?* (2016). SchoolDude.com  
Retrieved from: <https://explore.schooldude.com/rs/583-IUG-201/images/DOC%20PDF%20Budget-&-Staffing-Survey-Results.pdf>
- Operational Guidelines for Educational Facilities – Custodial* (3<sup>rd</sup> ed.). (2011). Alexandria, VA. APPA.

Using benchmarks to establish staffing levels for your facilities. *FM Benchmarking*.

Retrieved from: <http://fmllink.com/articles/using-benchmarking-to-establish-staffing-levels-for-your-facilities/>

# **APPENDIX A**

## **APPA CUSTODIAL SERVICE LEVELS**

### **Level 1 - Orderly Spotlessness**

Level 1 establishes cleaning at the highest level. It was developed for the corporate suite, the donated building, or the historical focal point. This is show-quality cleaning for that prime facility.

- Floors and base moldings shine and/or are bright and clean; colors are fresh. There is no buildup in corners or along walls.
- All vertical and horizontal surfaces have a freshly cleaned or polished appearance and have no accumulation of dust, dirt, marks, streaks, smudges, or fingerprints.
- Washroom and shower tile and fixtures gleam and are odor-free. Supplies are adequate.
- Trash containers and pencil sharpeners are empty, clean, and odor-free.

### **Level 2 - Ordinary Tidiness**

Level 2 is the base upon which this study is established. This is the level at which cleaning should be maintained. Lower levels for washrooms, changing/locker rooms, and similar type facilities are not acceptable.

- Floors and base moldings shine and/or are bright and clean. There is no buildup in corners or along walls, but there can be up to two days' worth of dirt, dust, stains, or streaks.
- All vertical and horizontal surfaces are clean, but marks, dust, smudges, and fingerprints are noticeable with close observation.
- Washroom and shower tile and fixtures gleam and are odor-free. Supplies are adequate.
- Trash containers and pencil sharpeners are empty, clean, and odor-free.

### **Level 3 - Casual Inattention**

This level reflects the first budget cut, or some other staffing-related problem. It is a lowering of normal expectations. While not totally acceptable, it has yet to reach an unacceptable level of cleanliness.

- Floors are swept clean, but upon close observation dust, dirt, and stains, as well as a buildup of dirt, dust, and/or floor finish in corners and along walls, can be seen.
- There are dull spots and/or matted carpet in walking lanes, and streaks and splashes on base molding.
- All vertical and horizontal surfaces have obvious dust, dirt, marks, smudges, and fingerprints.
- Lamps all work and all fixtures are clean.
- Trash containers and pencil sharpeners are empty, clean, and odor-free.

### **Level 4 - Moderate Dinginess**

Level 4 reflects the second budget cut, or some other significant staffing-related problem. Areas are becoming unacceptable. People beginning to accept an environment lacking normal cleanliness. In fact, the facility begins to constantly look like it requires a good "spring cleaning."

- Floors are swept clean, but are dull. Colors are dingy, and there is an obvious buildup of dust, dirt, and/or floor finish in corners and along walls. Molding is dull and contains streaks and splashes.
- All vertical and horizontal surfaces have conspicuous dust, dirt, smudges, fingerprints, and marks that will be difficult to remove.



## APPENDIX A

- Less than 5% of lamps are burned out, and fixtures are dingy.
- Trash containers and pencil sharpeners have old trash and shavings. They are stained and marked. Trash cans smell sour.

### **Level 5 - Unkempt Neglect**

This is the final and lowest level. The trucking industry would call this “just-in-time cleaning.” The facility is always dirty, with cleaning accomplished at an unacceptable level.

- Floors and carpets are dirty and have visible wear and/or pitting. Colors are faded and dingy, and there is a conspicuous buildup of dirt, dust, and/or floor finish in corners and along walls. Base molding is dirty, stained, and streaked. Gum, stains, dirt, dust balls, and trash are broadcast.
- All vertical and horizontal surfaces have major accumulations of dust, dirt, smudges, and fingerprints, as well as damage. It is evident that no maintenance or cleaning is done on these surfaces.
- More than 5% of lamps are burned out, and fixtures are dirty with dust balls and flies.
- Trash containers and pencil sharpeners overflow. They are stained and marked. Trash containers smell sour.

## APPENDIX B

WOODWARD ACADEMY BUILDING LIST				
#	Name	Cat	Total SF	Total CSF
1	Primary School	CR/D/A/O	60,000	49906
2	Lower School	CR/D/A/O	73,000	65724
3	Middle School Classroom	CR/O	82,000	65563
4	Middle School Art	A	7,650	6371
5	Middle School Dining	D	14,325	10852
6	Jane Woodruff Hall	CR	101,300	85760
7	Moss Hall Math and Science	CR	45,000	38397
8	Carlos Science	CR	18,980	19782
9	Brand Hall	CR/D	29,000	20799
10	Carlos Library	M/CR	16,900	14515
11	Woodruff Dining Hall	D/O	18,500	11006
12	Carlos Admin	O	14,250	10522
13	Campfield	D/M	3,900	3370
14	Facilities Building	O/CR/D	13,230	9755
15	Student Transport	O/CR/D	14,700	8266
			512,735	420,588
		Room category		
		Classroom	CR	
		Dining	D	
		Art	A	
		Multi	M	
		Office	O	

## APPENDIX C

### Woodward Academy Building/Space Audit

<b>PRIMARY SCHOOL</b>		
<u>Room type</u>	<u>CSF</u>	<u># Rms</u>
Cafeteria (hard floor)	6311/0	1/0
Classroom (carpet)	8750/13796	10/16
Classroom (hard floor)	3826/0	4/0
Entryway	774/0	1/0
Library (carpet)	0/2571	0/1
Locker/changing room	295/0	2/0
Infirmary (including exam rooms)	106/0	1/0
Office (carpet)	1557/1962	9/5
Office (hard floor)		
Public hallway (carpet)	3808/3674	1/1
Public hallway (hard floor)		
Stairwell	319/319	2/2
Utility	205/0	1/0
Individual restrooms	1101/311	17/5
<u>Multi-fixture restrooms</u>	395/464	2/2
Toilets	N/A	21/13
Urinals	N/A	2/3
<u>Sinks</u>	N/A	24/18
Floors	N/A	2
	Total CSF	27128/22778
		<b>49906 SF</b>

## APPENDIX C

### Woodward Academy Building/Space Audit

<b>LOWER SCHOOL</b>		
<u>Room type</u>	<u>CSF</u>	<u># Rms</u>
Cafeteria (hard floor)	5551/0/0	1/0/0
Classroom (carpet)	8216/9100/14540	10/9/15
Classroom (hard floor)	4846/1800/1800	3/2/2
Entryway	00/1105/0	1/0/0
Library (carpet)	0/2945/0	0/1/0
Locker/changing room	768/0/0	2/0/0
Infirmary (including exam rooms)	0/470/0	0/1/0
Office (carpet)	1361/1557/240	5/7/1
Office (hard floor)		
Public hallway (carpet)	3360/1920/1620	1/1/1
Public hallway (hard floor)		
Stairwell	825/825/825	3/3/3
Utility	385/0/0	1/0/0
Individual restrooms	70/105/70	2/3/2
<u>Multi-fixture restrooms</u>	900/760/760	4/2/2
Toilets	N/A	9/13/12
Urinals	N/A	3/4/4
<u>Sinks</u>	N/A	10/9/8
Floors	N/A	3
Total CSF	26282/19587/19855	
		<b>65724 SF</b>

## APPENDIX C

### Woodward Academy Building/Space Audit

MIDDLE SCHOOL MAIN		
<u>Room type</u>	<u>CSF</u>	<u># Rms</u>
Cafeteria (hard floor)		
Classroom (carpet)	12066/10316/11207	14/12/13
Classroom (hard floor)	0/4455/3564	0/5/4
Entryway	1388/0/0	1/0/0
Library (carpet)		
Locker/changing room		
Infirmary (including exam rooms)	891/0/0	3/0/0
Office (carpet)	1350/1341/1520	5/2/3
Office (hard floor)	1074/1074/1074	4/4/4
Public hallway (carpet)		
Public hallway (hard floor)	2644/3084/3084	1/1/1
Stairwell	1170/1170/1170	3/3/3
Utility		
Individual restrooms	139/66/66	2/1/1
<u>Multi-fixture restrooms</u>	550/550/550	2/2/2
Toilets	N/A	6/7/7
Urinals	N/A	2/2/2
<u>Sinks</u>	N/A	8/9/9
Floors	N/A	3
Total CSF	21272/22056/22235	
		<b>65563 SF</b>

## APPENDIX C

### Woodward Academy Building/Space Audit

MIDDLE SCHOOL DINING		
<u>Room type</u>	<u>CSF</u>	<u># Rms</u>
Cafeteria (hard floor)	10346	1
Classroom (carpet)		
Classroom (hard floor)		
Entryway		
Library (carpet)		
Locker/changing room		
Infirmary (including exam rooms)		
Office (carpet)		
Office (hard floor)	60	1
Public hallway (carpet)		
Public hallway (hard floor)		
Stairwell		
Utility		
Individual restrooms		
<u>Multi-fixture restrooms</u>	446	2
Toilets	N/A	4
Urinals	N/A	2
<u>Sinks</u>	N/A	4
Floors	N/A	1
Total CSF	10852	
		<b>10852 SF</b>

## APPENDIX C

### Woodward Academy Building/Space Audit

<b>MIDDLE SCHOOL ART</b>		
<u>Room type</u>	<u>CSF</u>	<u># Rms</u>
Cafeteria (hard floor)		
Classroom (carpet)		
Classroom (hard floor)	4002	4
Entryway	1080	1
Library (carpet)		
Locker/changing room		
Infirmary (including exam rooms)		
Office (carpet)		
Office (hard floor)		
Public hallway (carpet)		
Public hallway (hard floor)	322	1
Stairwell		
Utility	547	2
Individual restrooms		
<u>Multi-fixture restrooms</u>	420	2
Toilets	N/A	3
Urinals	N/A	1
<u>Sinks</u>	N/A	4
Floors	N/A	1
Total CSF	6371	
		<b>6371 SF</b>

## APPENDIX C

### Woodward Academy Building/Space Audit

<b>JANE WOODRUFF HALL</b>		
<u>Room type</u>	<u>CSF</u>	<u># Rms</u>
Cafeteria (hard floor)		
Classroom (carpet)	13500/18400/15700	14/23/20
Classroom (hard floor)		
Entryway	5747/0/0	1/0/0
Library (carpet)		
Locker/changing room		
Infirmary (including exam rooms)	952/0/0	1/0/0
Office (carpet)	4018/0/418	15/0/2
Office (hard floor)	100/0/0	1/0/0
Public hallway (carpet)	850/0/0	2/0/0
Public hallway (hard floor)	6150/8030/4250	2/1/1
Stairwell	880/880/880	3/3/3
Utility	608/600/482	2/1/1
Individual restrooms	490/90/95	7/2/2
<u>Multi-fixture restrooms</u>	880/880/880	4/4/4
Toilets	N/A	19/14/14
Urinals	N/A	4/4/4
<u>Sinks</u>	N/A	23/18/18
Floors	N/A	3/3/3
Total CSF	34175/26880/22705	
		<b>85760 SF</b>



## APPENDIX C

### Woodward Academy Building/Space Audit

<b>MOSS HALL</b>		
<u>Room type</u>	<u>CSF</u>	<u># Rms</u>
Cafeteria (hard floor)		
Classroom (carpet)	6821/5187/5792	8/7/08
Classroom (hard floor)	0/3104/3106	0/2/3
Entryway	148/0/0	1/0/0
Library (carpet)		
Locker/changing room		
Infirmary (including exam rooms)		
Office (carpet)	1608/636/0	7/1/0
Office (hard floor)		
Public hallway (carpet)		
Public hallway (hard floor)	2828/2741/2838	1/1/1
Stairwell	660/660/660	2/2/2
Utility		
Individual restrooms	187/55/55	2/1/1
<u>Multi-fixture restrooms</u>	435/438/438	2/2/2
Toilets	N/A	8/7/7
Urinals	N/A	2/2/2
<u>Sinks</u>	N/A	9/7/7
Floors	N/A	3
Total CSF	12687/12821/12889	
		<b>38397 SF</b>

## APPENDIX C

### Woodward Academy Building/Space Audit

<b>CARLOS SCIENCE</b>		
<u>Room type</u>	<u>CSF</u>	<u># Rms</u>
Cafeteria (hard floor)		
Classroom (carpet)		
Classroom (hard floor)	5594/6771	5/5
Entryway		
Library (carpet)		
Locker/changing room		
Infirmary (including exam rooms)		
Office (carpet)	736/250	4/1
Office (hard floor)		
Public hallway (carpet)	1600/1040	1/1
Public hallway (hard floor)		
Stairwell	360/360	2/2
Utility	1372/1099	2/2
Individual restrooms		
<u>Multi-fixture restrooms</u>	360/240	2/2
Toilets	N/A	6/4
Urinals	N/A	0/1
<u>Sinks</u>	N/A	6/3
Floors	N/A	2
Total CSF	10022/9760	
		<b>19782 SF</b>

## APPENDIX C

### Woodward Academy Building/Space Audit

<b>BRAND HALL</b>		
<u>Room type</u>	<u>CSF</u>	<u># Rms</u>
Cafeteria (hard floor)	2296/0/0	1/0/0
Classroom (carpet)		
Classroom (hard floor)	2737/4411/5120	4/5/5
Entryway		
Library (carpet)		
Locker/changing room		
Infirmary (including exam rooms)		
Office (carpet)		
Office (hard floor)	188/309/0	1/2/0
Public hallway (carpet)		
Public hallway (hard floor)	1000/1300/1300	1/1/1
Stairwell	480/480/480	3/3/3
Utility		
Individual restrooms	179/121/50	3/2/1
<u>Multi-fixture restrooms</u>	0/382/446	0/2/2
Toilets	N/A	3/8/8
Urinals	N/A	0/0/2
<u>Sinks</u>	N/A	3/7/6
Floors	N/A	3
Total CSF	6400/7003/7396	
		<b>20799 SF</b>

## APPENDIX C

### Woodward Academy Building/Space Audit

<b>CARLOS LIBRARY</b>		
<u>Room type</u>	<u>CSF</u>	<u># Rms</u>
Cafeteria (hard floor)		
Classroom (carpet)	0/1612	0/3
Classroom (hard floor)		
Entryway	216/0	1/0
Library (carpet)	7975/0	1/0
Locker/changing room		
Infirmary (including exam rooms)		
Office (carpet)	750/1178	3/2
Office (hard floor)		
Public hallway (carpet)	0/1360	0/1
Public hallway (hard floor)		
Stairwell	360/360	2/2
Utility		
Individual restrooms	0/64	0/2
<u>Multi-fixture restrooms</u>	640/0	2/0
Toilets	N/A	5/2
Urinals	N/A	1/0
<u>Sinks</u>	N/A	6/2
Floors	N/A	2
Total CSF	9941/4574	
		<b>14515 SF</b>

## APPENDIX C

### Woodward Academy Building/Space Audit

<b>WOODRUFF DINING</b>		
<u>Room type</u>	<u>CSF</u>	<u># Rms</u>
Cafeteria (hard floor)	0/9302	1/0
Classroom (carpet)		
Classroom (hard floor)		
Entryway		
Library (carpet)		
Locker/changing room		
Infirmary (including exam rooms)		
Office (carpet)	600/160	4/1
Office (hard floor)		
Public hallway (carpet)		
Public hallway (hard floor)	0/224	0/1
Stairwell	0/144	0/1
Utility		
Individual restrooms		
<u>Multi-fixture restrooms</u>	288/288	2/2
Toilets	N/A	3/3
Urinals	N/A	1/1
<u>Sinks</u>	N/A	2/2
Floors	N/A	1
Total CSF	888/10118	
		<b>11006 SF</b>

## APPENDIX C

### Woodward Academy Building/Space Audit

<b>CARLOS ADMINISTRATION</b>		
<u>Room type</u>	<u>CSF</u>	<u># Rms</u>
Cafeteria (hard floor)		
Classroom (carpet)		
Classroom (hard floor)	0/1932	0/1
Entryway	576/0	1/0
Library (carpet)		
Locker/changing room		
Infirmary (including exam rooms)		
Office (carpet)	2240/2400	10/12
Office (hard floor)		
Public hallway (carpet)	1305/0	2/0
Public hallway (hard floor)	740/440	1/1
Stairwell	310/310	2/2
Utility		
Individual restrooms	0/85	0/2
<u>Multi-fixture restrooms</u>	184/0	2/0
Toilets	N/A	3/2
Urinals	N/A	1/0
<u>Sinks</u>	N/A	4/2
Floors	N/A	2/0
Total CSF	5355/5167	
		<b>10522 SF</b>

## APPENDIX C

### Woodward Academy Building/Space Audit

<b>CAMPFIELD</b>		
<u>Room type</u>	<u>CSF</u>	<u># Rms</u>
Cafeteria (hard floor)	2960	1
Classroom (carpet)		
Classroom (hard floor)		
Entryway		
Library (carpet)		
Locker/changing room		
Infirmary (including exam rooms)		
Office (carpet)		
Office (hard floor)		
Public hallway (carpet)		
Public hallway (hard floor)		
Stairwell		
Utility		
Individual restrooms		
<u>Multi-fixture restrooms</u>	410	2
Toilets	N/A	3
Urinals	N/A	1
<u>Sinks</u>	N/A	4
Floors	N/A	1
Total CSF	3370	
		<b>3370 SF</b>

## APPENDIX C

### Woodward Academy Building/Space Audit

<b>FACILITIES</b>		
<u>Room type</u>	<u>CSF</u>	<u># Rms</u>
Cafeteria (hard floor)	3520/0	2/0
Classroom (carpet)	0/330	0/1
Classroom (hard floor)		
Entryway		
Library (carpet)		
Locker/changing room		
Infirmary (including exam rooms)		
Office (carpet)	2130/1625	6/4
Office (hard floor)	144/0	1/0
Public hallway (carpet)	700/376	2/1
Public hallway (hard floor)		
Stairwell	120/120	1/1
Utility		
Individual restrooms	144/144	2/2
<u>Multi-fixture restrooms</u>	350/52	2/1
Toilets	N/A	6/3
Urinals	N/A	2/0
<u>Sinks</u>	N/A	6/3
Floors	N/A	2
Total CSF	7108/2647	
		<b>9755 SF</b>



## APPENDIX C

### Woodward Academy Building/Space Audit

STUDENT TRANSPORT		
<u>Room type</u>	<u>CSF</u>	<u># Rms</u>
Cafeteria (hard floor)	2814	2
Classroom (carpet)	1336	1
Classroom (hard floor)		
Entryway	233	1
Library (carpet)		
Locker/changing room		
Infirmary (including exam rooms)		
Office (carpet)	1994	12
Office (hard floor)		
Public hallway (carpet)	325	1
Public hallway (hard floor)	1213	2
Stairwell		
Utility		
Individual restrooms	351	7
<u>Multi-fixture restrooms</u>		
Toilets	N/A	6
Urinals		
<u>Sinks</u>	N/A	7
Floors	N/A	1
Total CSF	8266	
		<b>8266 SF</b>

## APPENDIX D

### WA Housekeeping Survey

Building Owner Comments/Special requests:

Office spaces:	Priority: _____	Cleaning level: _____
Faculty restrooms:	Priority: _____	Cleaning level: _____
Student restrooms:	Priority: _____	Cleaning level: _____
Classrooms:	Priority: _____	Cleaning level: _____
Common spaces:	Priority: _____	Cleaning level: _____
Hallways:	Priority: _____	Cleaning level: _____
Stairwells:	Priority: _____	Cleaning level: _____
Faculty lounges:	Priority: _____	Cleaning level: _____

Notes:

Please rank spaces in priority from 1 to 8

See back of this page for Cleaning level descriptions

# APPENDIX D

## APPA Appearance Factors for Each Cleaning Level

Note: Levels are as stated in *Custodial Staffing Guidelines for Educational Facilities* (Second Edition) published by APPA: The Association of Higher Education Facilities Officers.

### Level 1:

- Floors and base moldings shine/and or are bright and clean; colors are fresh. There is no buildup in corners or along walls.
- All vertical and horizontal surfaces have a freshly cleaned or polished appearance and have no accumulation of dust, dirt, marks, streaks, smudges, or fingerprints. Lights all work and fixtures are clean.
- Washroom and shower fixtures and tile gleam and are odor free. Supplies are adequate
- Trash containers and pencil sharpeners hold only daily waste, are clean and odor free.

### Level 2:

- Floors and base moldings shine and/or are bright and clean. There is no buildup in corners or along walls but there can be up to two days worth of dust, dirt, stains or streaks.
- All vertical and horizontal surfaces are clean, but marks, dust, smudges, and fingerprints are noticeable upon close observation. Lights all work and fixtures are clean.
- Washroom and shower fixtures and tile gleam and are odor free. Supplies are adequate.
- Trash containers and pencil sharpeners hold only daily waste, are clean and odor free.

### Level 3:

- Floors are swept or vacuumed clean, but upon close observation there can be stains. A buildup of dirt and/or floor finish in corners and along walls can be seen.
- There are dull spots and/or matted carpet in the walking lanes. There are streaks or splashes on base molding.
- All vertical and horizontal surfaces have obvious dust, dirt, marks, smudges, and fingerprints. Lamps all work and fixtures are clean.
- Trash containers and pencil sharpeners hold only daily waste, are clean and odor free.

### Level 4:

- Floors are swept or vacuumed clean, but are dull, dingy, and stained. There is a noticeable buildup of dirt and/or floor finish in corners and along walls can be seen.
- There is a dull path and/or obvious matted carpet in the walking lanes. Base molding is dull and dingy with streaks or splashes.
- All vertical and horizontal surfaces have conspicuous dust, dirt, smudges, fingerprints, and marks. Lamp fixtures are dirty and some lamps (up to 5) are burned out.
- Trash containers and pencil sharpeners have old trash and shavings. They are stained and marked. Trash containers smell sour.

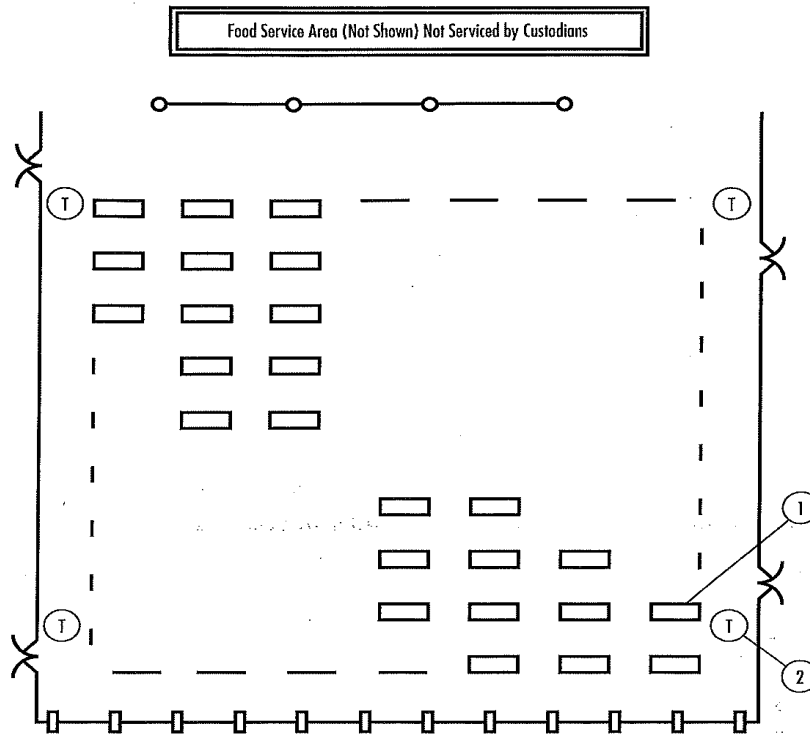
### Level 5:

- Floors and carpets are dull, dirty, dingy, scuffed, and/or matted. There is a conspicuous buildup of old dirt and/or floor finish in corners and along walls. Base molding is dirty, stained, and streaked. Gum, stains, dirt, dust balls, and trash are broadcast.
- All vertical and horizontal surfaces have major accumulations of dust, dirt, smudges, and fingerprints, all of which will be difficult to remove. Lack of attention is obvious.
- Light fixtures are dirty with dust balls and flies. Many lamps (more than 5 percent) are burned out.
- Trash containers and pencil sharpeners overflow. They are stained and marked. Trash containers smell sour.

## APPENDIX E

### Standard Space Category Matrices

#### Cafeteria with Hard Floor



#### Construction

Floor: Vinyl tile 100' x 100' (10,000 CSF)  
Walls: Gypsum semi-gloss latex paint  
Windows: One wall, floor to ceiling (15 ft.) with venetian blinds (1,500 CSF)

Window Ledge: 100' long

Doors: 6' Wide double, glass

Ceiling: 2' x 4' Dropped, exposed grid

Lighting: 100 - 1' x 4' Two-tube fluorescent

#### Features

1. 80 - Six person (30" x 72") movable tables with attached seating
2. 4 - Torpedo trash cans

## APPENDIX E

### Standard Space Category Matrices

#### Cafeteria with Hard Floor Matrix

Routine Activities	Frequency Adjusted Time					Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Dust flat surfaces (window ledge)	D 20.96	A/D 10.48				20.96
Spray-buff/burnish floors	A/D 65.50	W 26.20				131.00
Rollamp	D/A 0.58	D/A 0.58				3.46
Wipe table and seating	D 49.57	D 49.57				49.57
Spot-clean walls and doors	D 24.33	W 4.87				24.33
Empty trash containers	D 5.03	D 5.03				5.03
Damp-mop floors	D 80.15	D 80.15				80.15
Sweep, dust-mop floors	D 42.50	D 42.50				42.50
Adjusted Minutes subtotal	288.63	219.38				
CSF/Custodian	14,552	19,145				
Project Activities	Level 1	Level 2	Level 3	Level 4	Level 5	Base Time
Strip/refinish floors	Q 18.16	S/A 9.08				1,135
Project-clean light fixtures	S/A 0.82	A 0.41				102.33
Interim floor care	Q 2.59	S/A 1.30				162.00
Dust blinds	W 14.34	M 3.44				71.71
Project-clean furniture and seating	Q 4.83	S/A 2.42				302.17
Clean windows	S/A 1.41	A 0.71				176.84
Clean trash containers	W 0.94	M 0.23				4.71
Adjusted Minutes subtotal	43.11	17.58				
CSF/Custodian	97,425	238,908				
Total Adjusted minutes	331.73	236.96				
Total CSF/Custodian	12,661	17,724				

#### Frequency Codes/Daily Adjustment Factor

D — Daily / 1.00  
 A/D — Alternate Days / 0.50  
 W — Weekly / 0.20  
 M — Monthly / 0.048  
 Q — Quarterly / 0.016  
 S/A — Semiannually / 0.008  
 A — Annually / 0.004  
 D/A — Daily adjusted (see note)

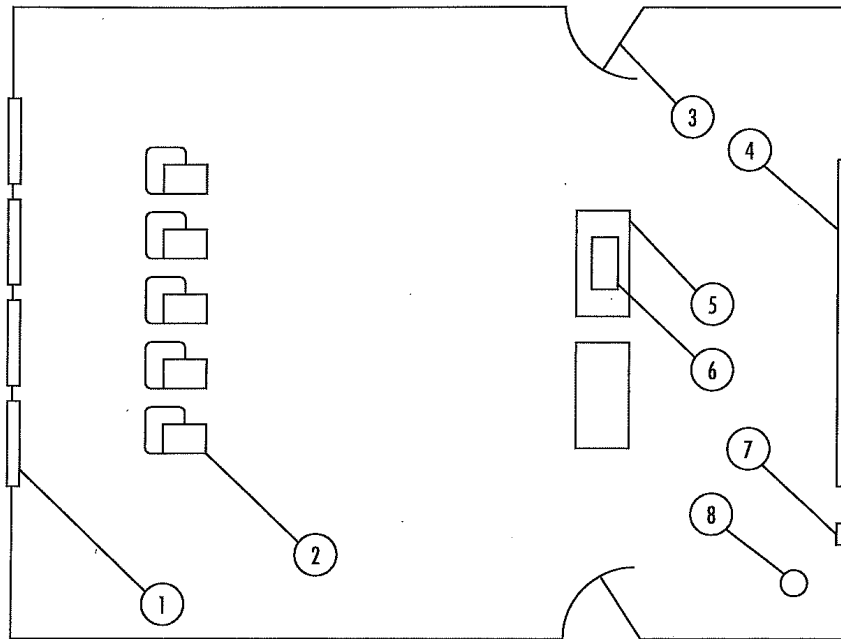
Square feet per custodian based on 420 productive minutes per day.

Adjusted minutes are for 10,000 cleanable square feet (CSF).

## APPENDIX E

### Standard Space Category Matrices

Classroom with Carpet Floor



#### Construction

30' x 40' (1,200 SF)  
Gypsum walls, light semi-gloss paint  
Exposed grid drop ceiling  
36 recessed, two-tube 2' x 4' fluorescents  
Carpeted floor  
1 supply air vent, 18" x 24"

#### Features

1. 4 windows, 50 SF\* total area with venetian blinds
2. 50 tablet arm chairs, moveable
3. 2 36" doors, each with a 4-SF window
4. Chalkboard, 50 SF
5. 2 work tables\*
6. 1 lectern\*
7. 1 pencil sharpener
8. 1 wastebasket with liner

\*Window ledges, work tables, and lectern total 40 SF of dusting surface.

## APPENDIX E

### Standard Space Category Matrices

#### Classroom with Carpet Floor Matrix

Routine Activities	Frequency Adjusted Time					Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Spot-clean walls and doors	D 3.12	W 0.62	M 0.15	S/A 0.02	0.00	3.12
Relamp	D/A 0.08	D/A 0.08	D/A 0.08	D/A 0.08	D/A 0.08	3.46
Clean chalkboards and trays	D 3.15	D 3.15	D 3.15	A/D 1.58	A/D 1.58	3.15
Dust flat surfaces	D 1.16	W 0.23	W 0.23	M 0.06	0.00	1.16
Empty waste containers	D 0.46	D 0.46	D 0.46	A/D 0.23	A/D 0.23	0.46
Empty pencil sharpeners	D 0.40	D 0.40	D 0.40	A/D 0.20	0.00	0.40
Vacuum carpet and straighten furniture	D 16.13	A/D 8.06	A/D 8.06	A/D 8.06	A/D 8.06	16.13
Spot-clean carpets	D 8.47	W 1.69	M 0.41	Q 0.14	Q 0.14	8.47
Clean erasers	D 0.60	D 0.60	D 0.60	A/D 0.30	A/D 0.30	0.60
Adjusted Minutes subtotal	33.56	15.30	13.54	10.67	10.38	
CSF/Custodian	15,016	32,931	37,214	47,256	48,532	
Project Activities	Level 1	Level 2	Level 3	Level 4	Level 5	Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Dust blinds	M 0.24	A 0.02	A 0.02	0.00	0.00	4.95
Project-clean furniture and seating	Q 1.18	A 0.29	A 0.29	0.00	0.00	73.73
Clean trash containers	W 0.20	S/A 0.01	S/A 0.01	A 0.00	0.00	1.01
Dust vents	M 0.07	Q 0.02	S/A 0.01	S/A 0.01	A 0.01	1.50
Perform interim carpet care	Q 0.55	Q 0.55	Q 0.55	0.00	0.00	34.60
Perform restorative carpet care	A 0.34	A 0.34	A 0.34	A 0.34	0.00	84.83
Clean windows	A 0.06	A 0.06	A 0.06	0.00	0.00	14.23
Project-clean light fixtures	A 0.40	A 0.40	A 0.40	0.00	0.00	101.24
Adjusted Minutes subtotal	3.05	1.70	1.69	0.36	0.01	
CSF/Custodian	165,246	296,471	298,225	1,400,000	50,400,000	
Total Adjusted minutes	36.61	17.01	15.23	11.02	10.39	
Total CSF/Custodian	13,766	29,636	33,086	45,732	48,504	

Frequency Codes/Daily Adjustment Factor

D — Daily / 1.00  
 A/D — Alternate Days / 0.50  
 W — Weekly / 0.20  
 M — Monthly / 0.048  
 Q — Quarterly / 0.016  
 S/A — Semiannually / 0.008  
 A — Annually / 0.004  
 D/A — Daily adjusted (see note)

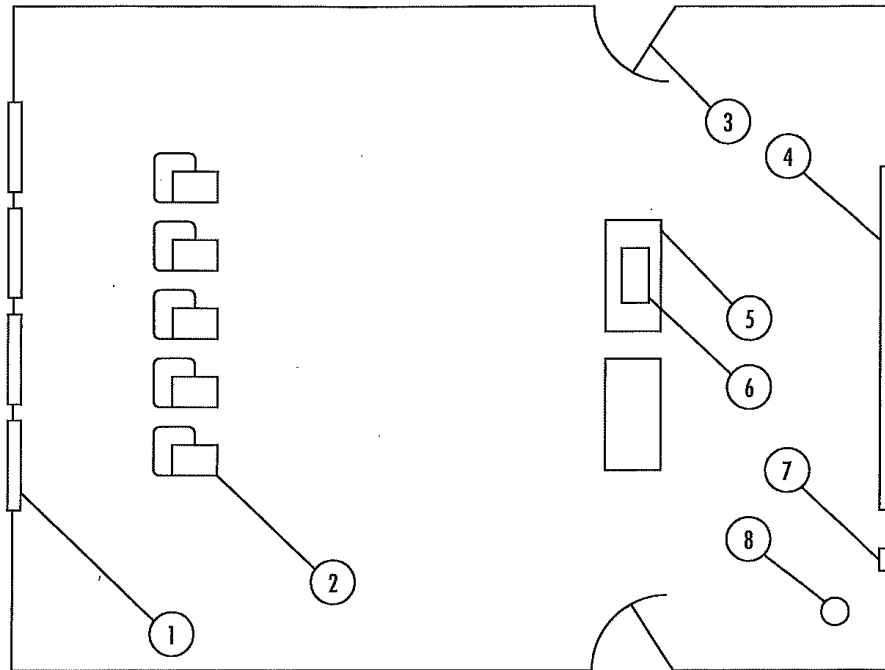
Square feet per custodian based on 420 productive minutes per day.

Adjusted minutes are for 1,200 cleanable square feet (CSF).

## APPENDIX E

### Standard Space Category Matrices

**Classroom with Hard Floor**



**Construction**

30' x 40' (1,200 SF)  
 Gypsum walls, light semi-gloss paint  
 Exposed grid drop ceiling  
 36 recessed, two-tube 2' x 4' fluorescents  
 Vinyl tile floor  
 1 supply air vent, 18" x 24"

**Features**

1. 4 windows, 50 SF\* total area with venetian blinds
2. 50 tablet arm chairs, movable
3. 2 36" doors, each with a 4-SF window
4. Chalkboard, 50 SF
5. 2 work tables\*
6. 1 lectern\*
7. 1 pencil sharpener
8. 1 wastebasket with liner

\*Window ledges, work tables, and lectern total 40 SF of dusting surface.



## APPENDIX E

### Standard Space Category Matrices

#### Classroom with Hard Floor Matrix

Routine Activities	Frequency Adjusted Time					Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Spot-clean walls and doors	D 3.12	W 0.62	M 0.15	S/A 0.02	0.00	3.12
Relamp	D/A 0.08	D/A 0.08	D/A 0.08	D/A 0.08	D/A 0.08	3.46
Clean chalkboards and trays	D 3.15	D 3.15	D 3.15	A/D 1.58	A/D 1.58	3.15
Dust flat surfaces	D 1.16	W 0.23	W 0.23	M 0.06	0.00	1.16
Empty waste containers	D 0.46	D 0.46	D 0.46	A/D 0.23	A/D 0.23	0.46
Empty pencil sharpeners	D 0.40	D 0.40	D 0.40	A/D 0.20	0.00	0.40
Sweep, dust-mop floors	D 16.40	D 16.40	A/D 8.20	A/D 8.20	A/D 8.20	16.40
Clean erasers	D 0.60	D 0.60	D 0.60	A/D 0.30	A/D 0.30	0.60
Adjusted Minutes subtotal	25.37	21.95	13.27	10.67	10.39	
CSF/Custodian	19,866	22,963	37,970	47,250	48,526	
Project Activities	Frequency Adjusted Time					Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Dust blinds	M 0.24	A 0.02	A 0.02	0.00	0.00	4.95
Project-clean furniture and seating	Q 1.18	A 0.29	A 0.29	0.00	0.00	73.73
Clean trash containers	W 0.20	S/A 0.01	S/A 0.01	A 0.00	A 0.00	1.01
Dust vents	M 0.07	Q 0.02	S/A 0.01	S/A 0.01	0.00	1.50
Perform interim floor care	Q 1.40	Q 1.40	0.00	0.00	0.00	87.76
Strip/refinish floors	A 0.67	A 0.67	A 0.67	A 0.67	0.00	166.64
Clean windows	S/A 0.11	A 0.06	A 0.06	0.00	0.00	14.23
Project-clean light fixtures	A 0.40	A 0.40	A 0.40	0.00	0.00	101.24
Spray-buff/burnish floors	W 2.99	M 0.72	Q 0.24	S/A 0.12	0.00	14.96
Damp-mop floors	D 16.61	M 0.80	M 0.80	S/A 0.13	0.00	16.61
Adjusted Minutes subtotal	23.89	4.39	2.50	0.94	0.00	
CSF/Custodian	21,097	114,806	201,600	536,170		
Total Adjusted minutes	49.26	26.34	15.77	11.60	10.39	
Total CSF/Custodian	10,232	19,132	31,952	43,441	48,507	

Frequency Codes/Daily Adjustment Factor

D — Daily / 1.00  
 A/D — Alternate Days / 0.50  
 W — Weekly / 0.20  
 M — Monthly / 0.048  
 Q — Quarterly / 0.016  
 S/A — Semiannually / 0.008  
 A — Annually / 0.004  
 D/A — Daily adjusted (see note)

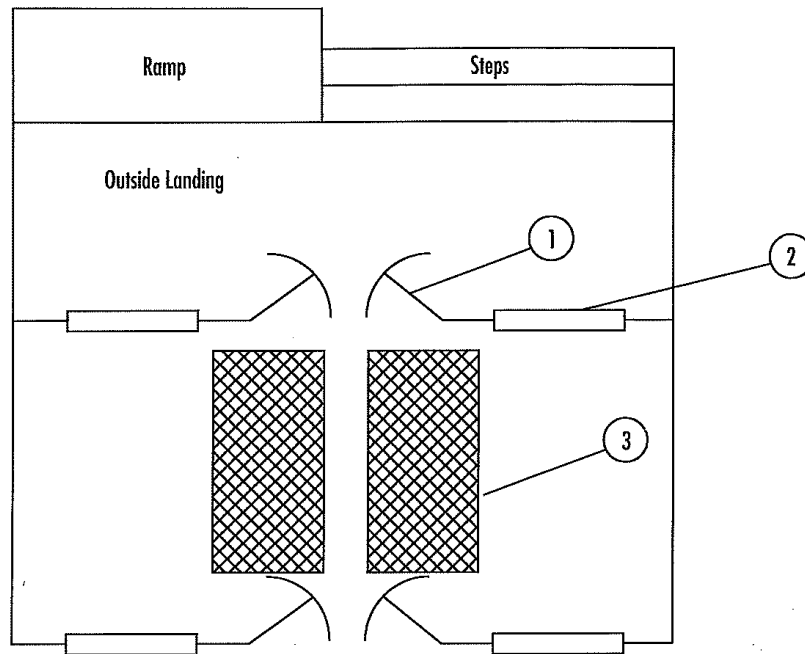
Square feet per custodian based on 420 productive minutes per day.

Adjusted minutes are for 1,200 cleanable square feet (CSF).

## APPENDIX E

### Standard Space Category Matrices

#### Entranceway



#### Construction

##### Exterior

Ramp, steps, and outside landing of concrete  
8' x 14' wide, or 112 SF

##### Interior

Windows and doors set in metal frames  
Vinyl composition floor tile, 8' x 15' or 120 SF  
Painted concrete block walls  
Exposed grid drop ceiling with 4 two-tube 1' x 4'  
recessed light fixtures

#### Features

1. 4 3' x 7' glass doors
2. 4 3' x 7' windows
3. 2 4' x 6' walk-off mats

## APPENDIX E

### Standard Space Category Matrices

#### Entranceway Matrix

Routine Activities	Frequency Adjusted Time					Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Clean doors and windows	A/D 5.86	W 2.34	M 0.56	Q 0.19	S/A 0.09	11.72
Clean/roll-up walk-off mats	D 1.29	D 1.29	A/D 0.65	W 0.26	M 0.06	1.29
Damp-mop floors	D 3.08	D 3.08	D 3.08	A/D 1.54	W 0.62	3.08
Dust flat surfaces	D 0.49	D 0.49	W 0.10	M 0.02	0.00	0.49
Relamp	D/A 0.01	D/A 0.01	D/A 0.01	D/A 0.01	D/A 0.01	3.46
Spot-clean walls and entrance doors	A/D 0.72	W 0.29	M 0.07	Q 0.02	A 0.01	1.44
Spray-buff/burnish floors	A/D 1.33	W 0.53	M 0.13	Q 0.04	0.00	2.66
Sweep outside ramp and landing	D 3.44	W 0.69	M 0.17	0.00	0.00	3.44
Sweep/dust-mop floor	D 1.91	D 1.91	D 1.91	D 1.91	D 1.91	1.91
Adjusted Minutes subtotal	18.13	10.63	6.67	3.99	2.70	
CSF/Custodian	5,374	9,163	14,613	24,396	36,137	
Project Activities	Level 1	Level 2	Level 3	Level 4	Level 5	Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Perform interim floor care	M 0.63	Q 0.21	Q 0.21	Q 0.21	0.00	13.21
Project-clean light fixtures	Q 0.11	S/A 0.05	A 0.03	0.00	0.00	6.61
Project-clean walk-off mats	Q 0.10	S/A 0.05	A 0.02	0.00	0.00	6.19
Strip and refinish floors	A 0.14	A 0.14	A 0.14	A 0.14	0.00	34.12
Adjusted Minutes subtotal	0.98	0.45	0.40	0.35	0.00	
CSF/Custodian	99,429	216,533	243,600	278,400		
Total Adjusted minutes	19.11	11.08	7.07	4.34	2.70	
Total CSF/Custodian	5,100	8,790	13,788	22,441	36,137	

#### Frequency Codes/Daily Adjustment Factor

D — Daily / 1.00	Q — Quarterly / 0.016
A/D — Alternate Days / 0.50	S/A — Semiannually / 0.008
W — Weekly / 0.20	A — Annually / 0.004
M — Monthly / 0.048	D/A — Daily adjusted (see note)

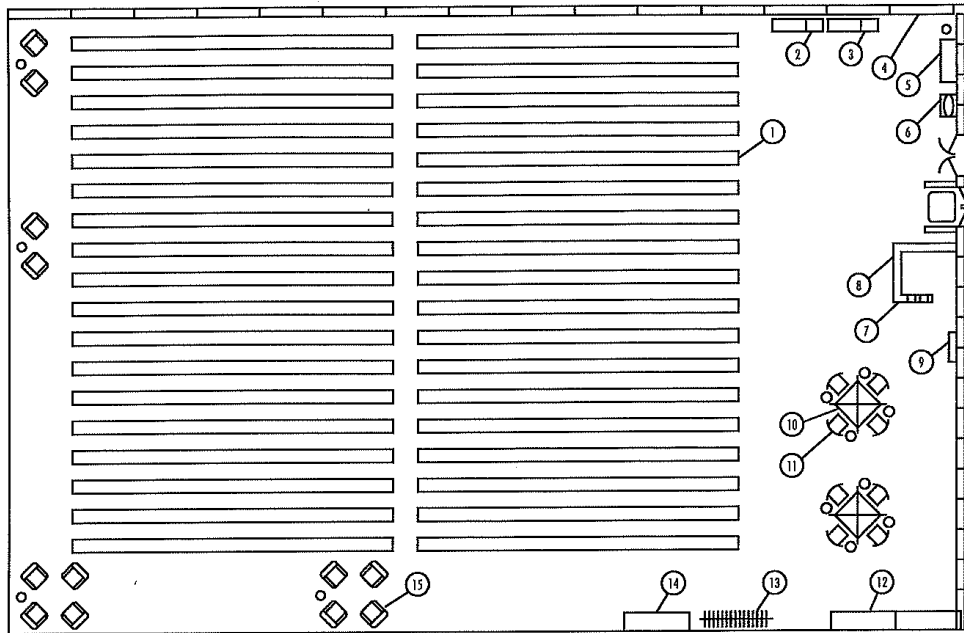
Square feet per custodian based on 420 productive minutes per day.

Adjusted minutes are for 232 cleanable square feet (CSF).

## APPENDIX E

### Standard Space Category Matrices

#### Library with Carpet



#### Construction

150 x 100 (15,000 SF)  
 Floor: Carpet - 11,400 SF (less bookshelf footprints)  
 Walls: (8' ceiling):  
     2 - Brick (2,000 SF)  
     2 - Glass - 2,000 SF (one side)  
 Ceiling: Dropped, exposed grid  
 Lamps: 400 - 1' x 4' Two-tube fluorescent  
 Entrance Door: Glass  
 Security Exit Door: Glass  
 Ceiling Air Vents: 30  
 Check-out/Reference Desk: (100 SF horizontal surface)

#### Features

1. 36 - 2' x 50' bookshelves (2½ ft. space between)
2. Manual card file with writing table
3. Computer card file with writing table
4. 3 - Recycling containers
5. Copier
6. Drinking fountain
7. 2 - Pencil sharpeners
8. 15 - Torpedo waste receptacles
9. Fire extinguisher
10. 2 - Four position study carrels (50 SF horizontal surface)
11. 8 - Side chairs
12. 2 - Walnut display cases (8'W x 4'H x 1.5'D)
13. Newspaper rack
14. Magazine rack
15. 12 - Overstuffed chairs

## APPENDIX E

### Standard Space Category Matrices

#### Library with Carpet Matrix

Routine Activities	Frequency Adjusted Time					Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Empty waste containers	D 13.81	D 13.81	D 13.81	A/D 6.91	W 2.76	13.81
Vacuum carpet and straighten furniture	D 142.47	A/D 71.23	W 28.49	W 28.49	W 28.49	142.47
Empty pencil sharpeners	D 0.91	D 0.91	D 0.91	A/D 0.45	0.00	0.91
Spot-clean carpet	D 62.17	W 12.43	M 2.98	Q 0.99	Q 0.99	62.17
Relamp	D/A 0.88	D/A 0.88	D/A 0.88	D/A 0.88	D/A 0.88	2.30
Spot-clean walls	A/D 18.41	W 7.36	M 1.77	Q 0.59	0.00	36.82
Dust flat surfaces	A/D 9.06	W 3.62	M 0.87	Q 0.29	0.00	18.12
Clean water fountains	D 2.01	D 2.01	D 2.01	D 2.01	D 2.01	2.01
Adjusted Minutes subtotal	249.73	112.27	51.73	40.63	35.15	
CSF/Custodian	25,227	56,112	121,778	155,072	179,232	
Project Activities	Frequency Adjusted Time					Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Clean trash containers	M 0.89	M 0.89	Q 0.30	S/A 0.15	0.00	18.45
Interim carpet care	Q 4.48	Q 4.48	Q 4.48	0.00	0.00	279.92
Project-clean upholstered furniture	Q 2.02	Q 2.02	Q 2.02	0.00	0.00	126.35
Clean windows	Q 4.06	S/A 2.03	S/A 2.03	A 1.02	0.00	254.03
Project-clean light fixtures	S/A 3.76	S/A 3.76	A 1.88	0.00	0.00	470.52
Restorative carpet care	A 2.66	A 2.66	A 2.66	A 2.66	A 2.66	663.87
Dust vents	W 6.67	M 1.60	Q 0.53	S/A 0.27	0.00	33.36
Adjusted Minutes subtotal	24.54	17.44	13.90	4.09	2.66	
CSF/Custodian	256,724	361,239	453,237	1,540,342	2,368,421	
Total Adjusted minutes	274.27	129.71	65.63	44.71	37.81	
Total CSF/Custodian	22,970	48,568	95,988	140,901	166,642	

#### Frequency Codes/Daily Adjustment Factor

D — Daily / 1.00	Q — Quarterly / 0.016
A/D — Alternate Days / 0.50	S/A — Semiannually / 0.008
W — Weekly / 0.20	A — Annually / 0.004
M — Monthly / 0.048	D/A — Daily adjusted (see note)

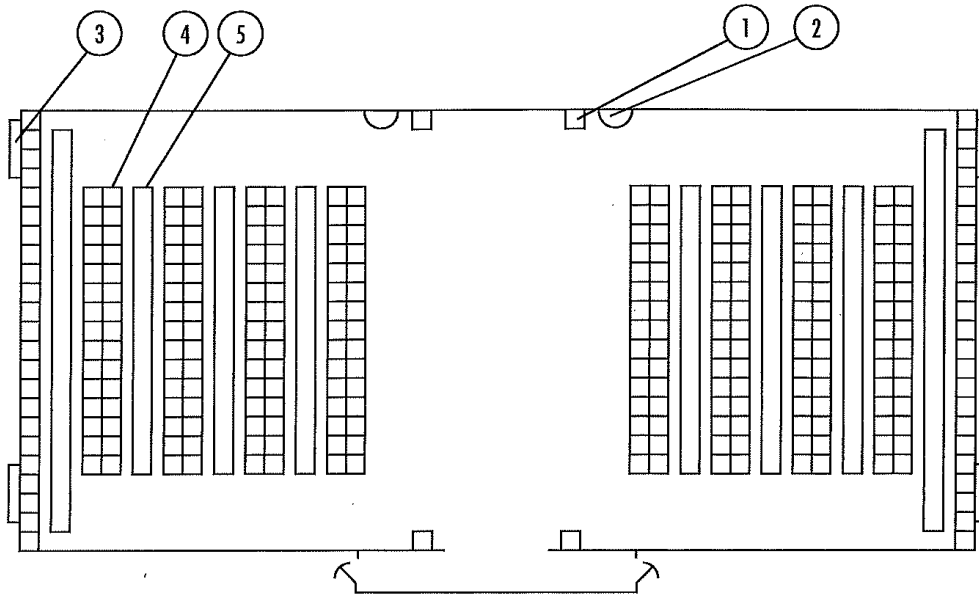
Square feet per custodian based on 420 productive minutes per day.

Adjusted minutes are for 15,000 cleanable square feet (CSF).

## APPENDIX E

### Standard Space Category Matrices

#### Locker/Changing Room – No Shower



#### Construction

##### Locker Room

63' x 30' or 1,960 SF (including entry vestibule)

Sealed concrete floor

Concrete block walls

Concrete ceiling

6" glazed ceramic tile splash apron on perimeter walls and locker pedestal

Steel pipe bench supports

Exposed fluorescent lighting — 3 strips of 7'-8' fixtures equally spaced

##### Shower Room

25' x 16' or 400 SF

Glazed ceramic tile walls and floor

Gypsum ceiling, light gloss paint

9 recessed waterproof ceiling light fixtures

#### Features

1. 4 waste receptacles

2. 2 water fountains

3. 4 18" x 3' supply air vents

4. 8 double rows of two-tiered 3'-high lockers, 20' long

2 single rows of two-tiered 3'-high lockers, 30' long

5. 6 rows of 20' wooden benches

2 rows of 24' wooden benches

## APPENDIX E

### Standard Space Category Matrices

#### Locker/Changing Room – No Shower Matrix

Routine Activities	Frequency Adjusted Time					Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Clean lockers and benches	D 8.64	D 8.64				8.64
Clean trash containers	W 0.39	W 0.39				1.93
Clean water fountains	D 2.11	D 2.11				2.11
Empty waste containers	D 1.73	D 1.73				1.73
Relamp	D/A 0.04	D/A 0.04				3.46
Spot-clean walls and entrance doors	D 7.59	D 7.59				7.59
Sweep/dust-mop floors	D 15.50	D 15.50				15.50
Wet-mop/auto-scrub floors	D 20.68	D 20.68				20.68
Adjusted Minutes subtotal	56.67	56.67				
CSF/Custodian	14,526	14,526				
Project Activities	Level 1	Level 2	Level 3	Level 4	Level 5	Base Time
Dust vents	M 0.14	M 0.14				2.89
Project-clean light fixtures	S/A 0.32	A 0.16				40.54
Strip and finish floors	S/A 1.78	A 0.89				222.99
Adjusted Minutes subtotal	2.25	1.19				
CSF/Custodian	365,867	691,765				
Total Adjusted minutes	58.92	57.86				
Total CSF/Custodian	13,972	14,227				

#### Frequency Codes/Daily Adjustment Factor

D — Daily / 1.00	Q — Quarterly / 0.016
A/D — Alternate Days / 0.50	S/A — Semiannually / 0.008
W — Weekly / 0.20	A — Annually / 0.004
M — Monthly / 0.048	D/A — Daily adjusted (see note)

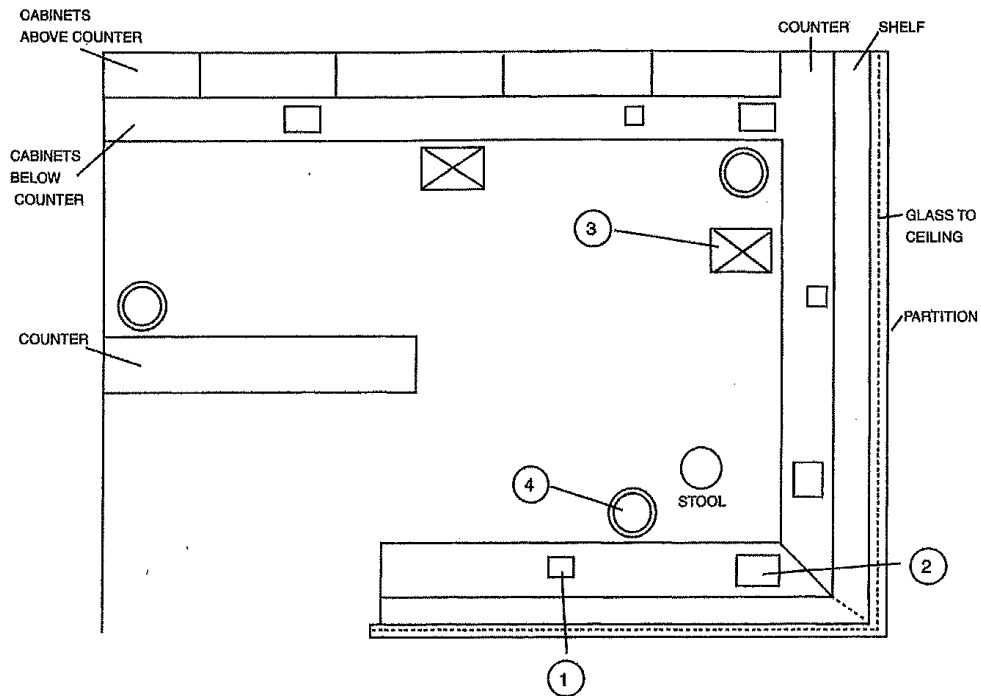
Square feet per custodian based on 420 productive minutes per day.

Adjusted minutes are for 1,960 cleanable square feet (CSF).

## APPENDIX E

### Standard Space Category Matrices

#### Nursing Station – Hard Floor



#### Construction

Size: 11' x 15' (165 SF)  
 Floor: Vinyl tile floor  
 Walls: Gypsum, semi-gloss latex paint  
 Cabinets: Cabinets below counters have composite drawers & doors  
               Cabinets above counters have composite doors  
 Lighting: 4 recessed two-tube fluorescents  
 Vents: 2 - 9' x 12' vents

#### Features

1. 3 Telephones
2. 3 CPUs
3. 2 Chairs
4. Trash receptacles



## APPENDIX E

### Standard Space Category Matrices

#### Nursing Station – Hard Floor Matrix

Routine Activities	Frequency Adjusted Time					Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Clean glass	D 2.03	D 2.03				2.03
Clean telephone	W 0.07	W 0.07				0.37
Damp-mop floors	D 2.20	D 2.20				2.20
Dust high surfaces	W 0.12	W 0.12				0.60
Dust, clean, disinfect flat surfaces	D 1.17	D 1.17				1.17
Relamp	D/A 0.03	D/A 0.03				3.45
Empty trash	D 0.20	D 0.20				0.20
Dust vents	W 0.17	W 0.17				0.85
Spot-clean walls and door	D 1.53	D 1.53				1.53
Sweep, dust-mop floors	D 1.87	D 1.87				1.87
Adjusted Minutes subtotal	9.38	9.38				
CSF/Custodian	7,389	7,389				
Project Activities	Level 1	Level 2	Level 3	Level 4	Level 5	Base Time
Interim floor care	A/W 1.19	A/W 1.19				11.88
Strip, refinish floor	S/A 0.18	S/A 0.18				22.78
Adjusted Minutes subtotal	1.37	1.37				
CSF/Custodian	50,584	50,584				
Total Adjusted minutes	10.75	10.75				
Total CSF/Custodian	6,447	6,447				

Frequency Codes/Daily Adjustment Factor

D — Daily / 1.00	Q — Quarterly / 0.016
A/D — Alternate Days / 0.50	S/A — Semiannually / 0.008
W — Weekly / 0.20	A — Annually / 0.004
M — Monthly / 0.048	D/A — Daily adjusted (see note)

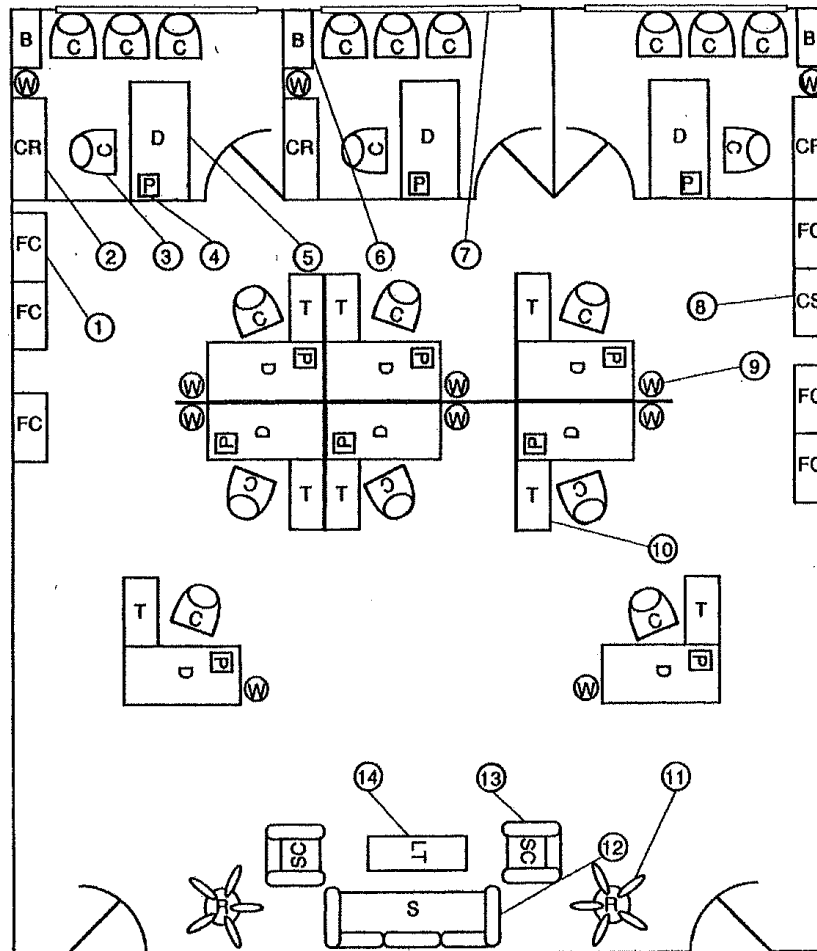
Square feet per custodian based on 420 productive minutes per day.

Adjusted minutes are for 165 cleanable square feet (CSF).

## APPENDIX E

### Standard Space Category Matrices

#### Office with Carpet Floor



#### Construction

30' x 40' (1,200 SF)  
 Carpeted floor  
 Gypsum, walls, light semi-gloss paint  
 Drop ceiling, exposed grid  
 36 recessed two-tube 1' x 4' fluorescent fixtures  
 45 LF x 4' high upholstered partitions  
 5 ceiling supply air vents  
 5 solid core wood entrance doors with louvered vents

#### Features

1. 6 sets of three-tier lateral file cabinets
2. 3 credenzas
3. 20 desk/side chairs
4. 11 telephones
5. 11 desks
6. 3 two-tier bookcases
7. 3 5' x 3' windows with venetian blinds

#### 8. Table for coffee service

9. 11 wastebaskets
10. 8 typing tables
11. 2 plastic rubber plants
12. Sofa
13. 2 upholstered lounge chairs
14. Low table

## APPENDIX E

### Standard Space Category Matrices

#### Office with Carpet Floor Matrix

Routine Activities	Frequency Adjusted Time					Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Clean telephones	D 4.17	W 0.83	M 0.20	Q 0.07	0.00	4.17
Dust furniture and flat surfaces	A/D 1.41	W 0.56	M 0.14	Q 0.05	0.00	2.82
Empty waste containers	D 4.37	D 4.37	D 4.37	A/D 2.18	W 0.87	4.37
Relamp	D/A 0.08	D/A 0.08	D/A 0.08	D/A 0.08	D/A 0.08	3.46
Spot-clean carpet	D 8.47	W 1.69	M 0.41	Q 0.14	Q 0.14	8.47
Spot-clean walls, partitions, and doors	A/D 2.38	W 0.95	M 0.23	Q 0.08	0.00	4.75
Vacuum carpet and straighten furniture	D 16.13	A/D 8.06	W 3.23	W 3.23	W 3.23	16.13
Adjusted Minutes subtotal	37.00	16.55	8.64	5.81	4.31	
CSF/Custodian	13,623	30,450	58,325	86,726	116,839	
Project Activities	Level 1	Level 2	Level 3	Level 4	Level 5	Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	Base Time
Clean trash containers	M 0.46	M 0.46	Q 0.15	S/A 0.08	0.00	9.68
Clean windows	Q 0.18	S/A 0.09	S/A 0.09	A 0.05	0.00	11.37
Dust blinds	Q 0.05	Q 0.05	S/A 0.02	S/A 0.02	0.00	2.83
Dust vents	M 0.09	M 0.09	Q 0.03	S/A 0.02	0.00	1.93
Perform interim carpet care	Q 0.55	Q 0.55	Q 0.55	0.00	0.00	34.60
Perform restorative carpet care	A 0.34	A 0.34	A 0.34	A 0.34	0.00	84.83
Project-clean light fixtures	S/A 0.47	S/A 0.47	A 0.24	0.00	0.00	58.81
Project-clean upholstered furniture	Q 1.99	Q 1.99	S/A 0.99	A 0.50	0.00	124.22
Adjusted Minutes subtotal	4.14	4.04	2.42	1.00	0.00	
CSF/Custodian	121,739	124,752	208,264	504,000		
Total Adjusted minutes	41.13	20.60	11.06	6.81	4.31	
Total CSF/Custodian	12,253	24,471	45,560	74,024	116,839	

#### Frequency Codes/Daily Adjustment Factor

D — Daily / 1.00	Q — Quarterly / 0.016
A/D — Alternate Days / 0.50	S/A — Semiannually / 0.008
W — Weekly / 0.20	A — Annually / 0.004
M — Monthly / 0.048	D/A — Daily adjusted (see note)

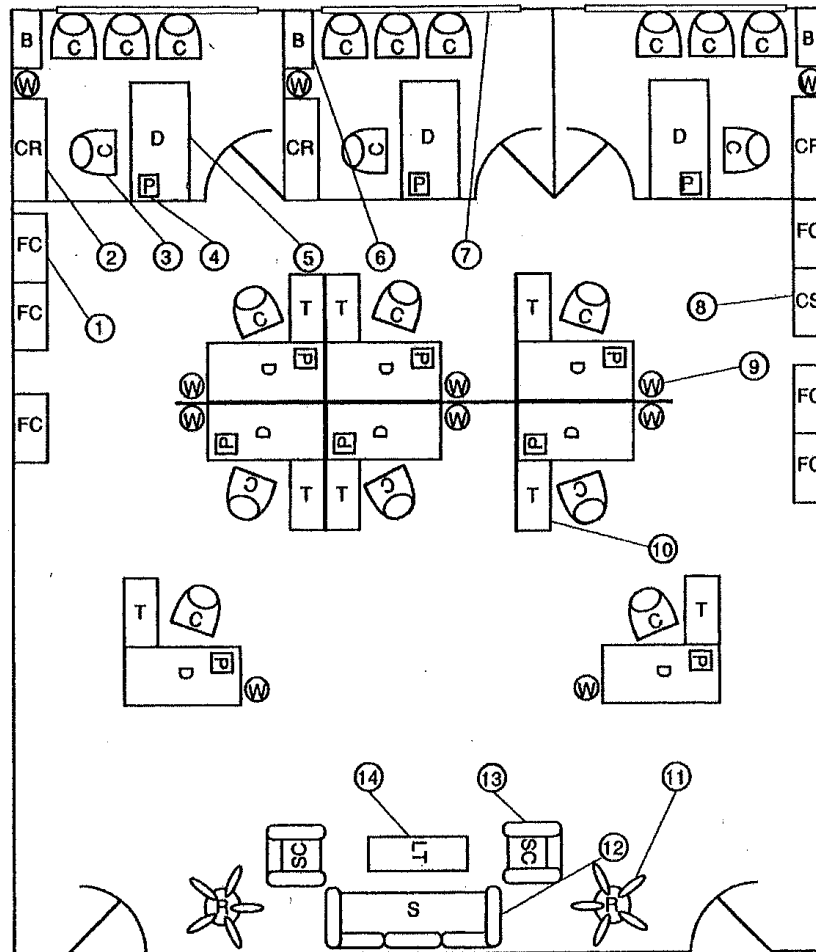
Square feet per custodian based on 420 productive minutes per day.

Adjusted minutes are for 1,200 cleanable square feet (CSF).

## APPENDIX E

### Standard Space Category Matrices

#### Office with Hard Floor



#### Construction

30' x 40' (1,200 SF)  
 Floor, vinyl composition tile  
 Gypsum, walls, light semi-gloss paint  
 Drop ceiling, exposed grid  
 36 recessed two-tube 1' x 4' fluorescent fixtures  
 45 LF x 4' high upholstered partitions  
 5 ceiling supply air vents  
 5 solid core wood entrance doors with louvered vents

#### Features

1. 6 sets of three-tier lateral file cabinets
2. 3 credenzas
3. 20 desk/side chairs
4. 11 telephones
5. 11 desks
6. 3 two-tier bookcases
7. 3 5' x 3' windows with venetian blinds

#### 8. Table for coffee service

9. 11 wastebaskets
10. 8 typing tables
11. 2 plastic rubber plants
12. Sofa
13. 2 upholstered lounge chairs
14. Low table

## APPENDIX E

### Standard Space Category Matrices

#### Office with Hard Floor Matrix

Routine Activities	Frequency Adjusted Time					Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Clean telephones	D 4.17	W 0.83	M 0.20	Q 0.07	Q 0.07	4.17
Dust furniture and flat surfaces	A/D 1.41	W 0.56	M 0.14	Q 0.05	Q 0.05	2.82
Empty and clean ashtrays	NA 0.00	NA 0.00	NA 0.00	NA 0.00	NA 0.00	0.00
Empty waste containers	D 4.37	D 4.37	D 4.37	A/D 2.18	W 0.87	4.37
Relamp	D/A 0.08	D/A 0.08	D/A 0.08	D/A 0.08	D/A 0.08	3.46
Damp-mop floors	D 16.61	M 0.80	M 0.80	S/A 0.13	0.00	16.61
Spot-clean walls, partitions, and doors	A/D 2.38	W 0.95	M 0.23	Q 0.08	Q 0.08	4.75
Sweep, dust-mop floors	D 16.40	D 16.40	A/D 8.20	A/D 8.20	A/D 8.20	16.40
Adjusted Minutes subtotal	45.42	23.99	14.01	10.78	9.34	
CSF/Custodian	11,097	21,007	35,982	46,738	53,957	
Project Activities	Frequency Adjusted Time					Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Clean trash containers	M 0.46	M 0.46	Q 0.15	S/A 0.08	0.00	9.68
Clean windows	Q 0.18	S/A 0.09	S/A 0.09	A 0.05	0.00	11.37
Dust blinds	Q 0.05	Q 0.05	S/A 0.02	S/A 0.02	0.00	2.83
Dust vents	M 0.09	M 0.09	Q 0.03	S/A 0.02	0.00	1.93
Perform interim floor care	Q 1.40	Q 1.40	0.00	0.00	0.00	87.76
Spray/buff-burnish floors	W 2.99	M 0.72	Q 0.24	S/A 0.12	0.00	14.96
Strip/refinish floors	A 0.67	A 0.67	A 0.67	A 0.67	0.00	166.64
Project-clean light fixtures	S/A 0.47	S/A 0.47	A 0.24	0.00	0.00	58.81
Project-clean upholstered furniture	Q 1.99	Q 1.99	S/A 0.99	A 0.50	0.00	124.22
Adjusted Minutes subtotal	8.30	5.94	2.43	1.44	0.00	
CSF/Custodian	60,723	84,848	207,407	350,000		
Total Adjusted minutes	53.72	29.93	16.44	12.23	9.34	
Total CSF/Custodian	9,382	16,838	30,655	41,218	53,957	

Frequency Codes/Daily Adjustment Factor

D — Daily / 1.00  
 A/D — Alternate Days / 0.50  
 W — Weekly / 0.20  
 M — Monthly / 0.048  
 Q — Quarterly / 0.016  
 S/A — Semiannually / 0.008  
 A — Annually / 0.004  
 D/A — Daily adjusted (see note)

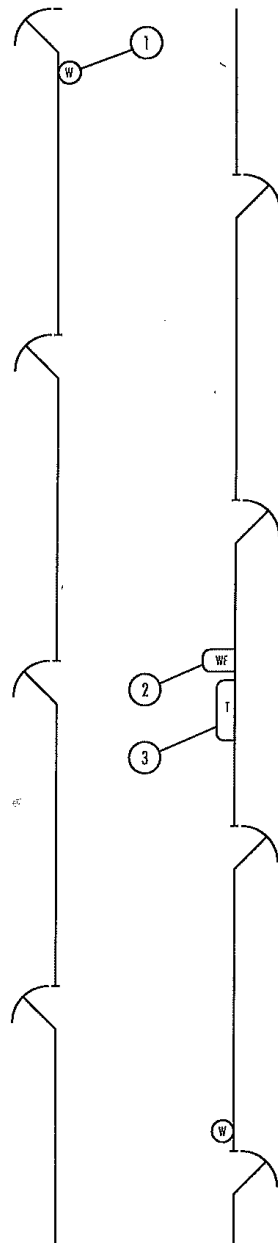
Square feet per custodian based on 420 productive minutes per day.

Adjusted minutes are for 1,200 cleanable square feet (CSF).

## APPENDIX E

### Standard Space Category Matrices

#### Public (Circulation) with Carpet Floor



#### Construction

Floor, carpet  
14' wide x 100' long (1,400 SF)  
Gypsum walls, light semi-gloss washable paint  
Exposed grid drop ceiling  
2 rows of 20 1' x 4' recessed fluorescent fixtures  
4 1.5'-diameter ceiling air vents  
8 varnished wood solid-core doors with metal frames

#### Features

1. 2 torpedo-style waste receptacles
2. Wall-mounted stainless steel water fountain
3. Wall-mounted telephone booth

## APPENDIX E

### Standard Space Category Matrices

#### Public (Circulation) with Carpet Floor Matrix

Routine Activities	Frequency Adjusted Time					Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Vacuum carpet and straighten furniture	D 7.15	A/D 3.57	W 1.43	W 1.43	W 1.43	7.15
Clean telephones	D 0.66	D 0.66	D 0.66	D 0.66	D 0.66	0.66
Clean water fountain	D 1.13	D 1.13	D 1.13	D 1.13	D 1.13	1.13
Dust flat surfaces	A/D 0.68	W 0.27	M 0.07	Q 0.02	A 0.01	1.36
Empty waste containers	D 0.83	D 0.83	D 0.83	D 0.83	D 0.83	0.83
Relamp	D/A 0.09	D/A 0.09	D/A 0.09	D/A 0.09	D/A 0.09	3.46
Spot-clean walls and doors	D 2.05	W 0.41	M 0.10	Q 0.03	A 0.01	2.05
Spot-clean carpet	D 9.88	W 1.98	W 1.98	Q 0.16	Q 0.16	9.88
Adjusted Minutes subtotal	22.48	8.95	6.29	4.36	4.32	
CSF/Custodian	26,160	65,703	93,536	134,899	136,178	
Project Activities	Frequency Adjusted Time					Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Clean trash containers	W 0.41	M 0.10	Q 0.03	S/A 0.02	A 0.01	2.07
Dust vents	W 0.31	M 0.08	Q 0.03	S/A 0.01	0.00	1.57
Perform restorative carpet care	A 0.37	A 0.37	A 0.37	A 0.37	0.00	92.93
Project-clean light fixtures	Q 0.97	S/A 0.49	S/A 0.49	A 0.24	0.00	60.93
Perform interim floor care	Q 0.65	Q 0.65	Q 0.65	0.00	0.00	40.50
Adjusted Minutes subtotal	2.72	1.68	1.57	0.64	0.01	
CSF/Custodian	216,176	350,000	374,522	918,750	58,800,000	
Total Adjusted minutes	25.20	10.63	7.85	5.00	4.33	
Total CSF/Custodian	23,334	55,310	74,889	117,522	135,918	

Frequency Codes/Daily Adjustment Factor

D — Daily / 1.00

A/D — Alternate Days / 0.50

W — Weekly / 0.20

M — Monthly / 0.048

Q — Quarterly / 0.016

S/A — Semiannually / 0.008

A — Annually / 0.004

D/A — Daily adjusted (see note)

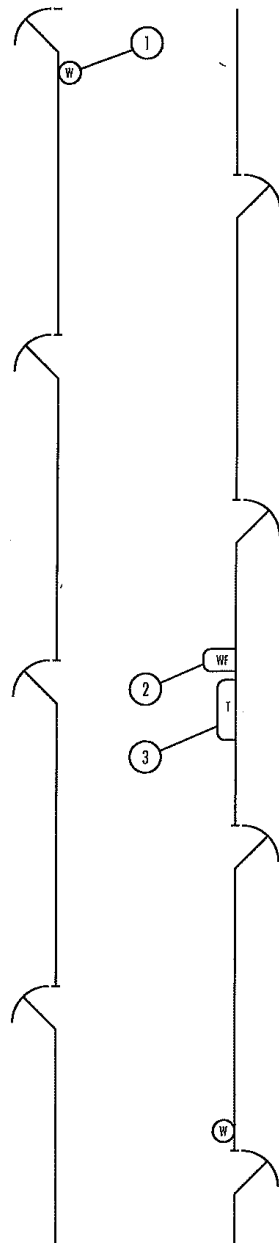
Square feet per custodian based on 420 productive minutes per day.

Adjusted minutes are for 1,400 cleanable square feet (CSF).

## APPENDIX E

### Standard Space Category Matrices

#### Public (Circulation) with Hard Floor



#### Construction

Vinyl composition floor tile  
14' wide x 100' long (1,400 SF)  
Gypsum walls, light semi-gloss washable paint  
Exposed grid drop ceiling  
2 rows of 20 1' x 4' recessed fluorescent fixtures  
4 1.5'-diameter ceiling air vents  
8 varnished wood solid-core doors with metal frames

#### Features

1. 2 torpedo-style waste receptacles
2. 2 wall-mounted stainless steel ash receptacles
3. Wall-mounted stainless steel water fountain
4. Wall-mounted telephone booth



## APPENDIX E

### Standard Space Category Matrices

#### Public (Circulation) with Hard Floor Matrix

Routine Activities	Frequency Adjusted Time					Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Auto-scrub floor	D 14.94	W 2.99	M 0.72	Q 0.24	A 0.06	14.94
Clean telephones	D 0.66	D 0.66	D 0.66	D 0.66	D 0.66	0.66
Clean water fountain	D 1.13	D 1.13	D 1.13	D 1.13	D 1.13	1.13
Dust flat surfaces	A/D 0.68	W 0.27	M 0.07	Q 0.02	A 0.01	1.36
Empty waste containers	D 0.83	D 0.83	D 0.83	D 0.83	D 0.83	0.83
Retamp	D/A 0.09	D/A 0.09	D/A 0.09	D/A 0.09	D/A 0.09	3.46
Spot-clean walls and doors	D 2.05	W 0.41	M 0.10	Q 0.03	A 0.01	2.05
Spray-buff/burnish floors	D 31.90	W 6.38	M 1.53	Q 0.51	A 0.13	31.90
Sweep, dust-mop floors	D 8.53	D 8.53	D 8.53	D 8.53	D 8.53	8.53
Adjusted Minutes subtotal	60.81	21.29	13.66	12.05	11.45	
CSF/Custodian	9,670	27,612	43,051	48,796	51,365	
Project Activities	Level 1	Level 2	Level 3	Level 4	Level 5	Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Clean trash containers	W 0.41	M 0.10	Q 0.03	S/A 0.02	A 0.01	2.07
Dust vents	W 0.31	M 0.08	Q 0.03	S/A 0.01	0.00	1.57
Perform interim floor care	Q 1.21	Q 1.21	Q 1.21	0.00	0.00	75.69
Project-clean light fixtures	Q 0.97	S/A 0.49	S/A 0.49	A 0.24	0.00	60.93
Strip/refinish floors	A 0.89	A 0.89	A 0.89	A 0.89	A 0.89	221.51
Adjusted Minutes subtotal	3.80	2.76	2.64	1.16	0.90	
CSF/Custodian	154,737	213,043	222,727	506,897	653,333	
Total Adjusted minutes	64.61	24.05	16.30	13.21	12.34	
Total CSF/Custodian	9,101	24,445	36,072	44,515	47,643	

Frequency Codes/Daily Adjustment Factor

D — Daily / 1.00

A/D — Alternate Days / 0.50

W — Weekly / 0.20

M — Monthly / 0.048

Q — Quarterly / 0.016

S/A — Semiannually / 0.008

A — Annually / 0.004

D/A — Daily adjusted (see note)

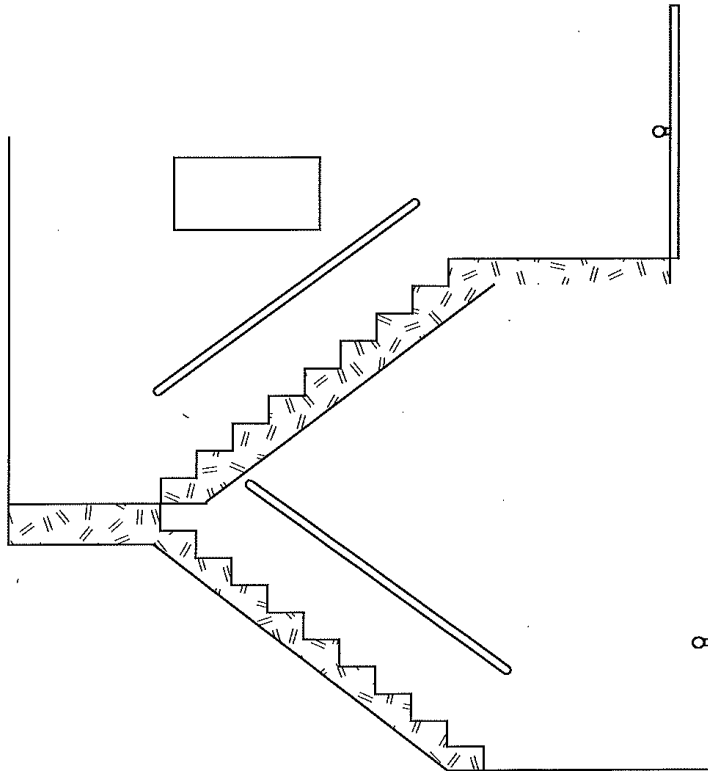
Square feet per custodian based on 420 productive minutes per day.

Adjusted minutes are for 1,400 cleanable square feet (CSF).

## APPENDIX E

### Standard Space Category Matrices

#### Stairwell



#### Construction

208 SF, including stair treads  
Stairs of concrete, 4' wide  
Upper and lower landing of concrete, 6' deep x 8' wide  
Center landing of concrete, 4' deep x 8' wide  
2 ceiling-mounted 1' x 4' two-tube fluorescent fixtures

#### Features

1. Window, 2' x 4'
2. 2 steel doors, gloss paint
3. 4 steel handrails, with center landing rail,  
total 56 LF

## APPENDIX E

### Standard Space Category Matrices

#### Stairwell Matrix

Routine Activities	Frequency Adjusted Time					Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Damp-mop stairs and landings	A/D 2.66	W 1.06	W 1.06	M 0.26	Q 0.09	5.32
Dust flat surfaces	A/D 0.80	W 0.32	Q 0.03	S/A 0.01	0.00	1.61
Relamp	D/A 0.03	D/A 0.03	D/A 0.03	D/A 0.03	D/A 0.03	3.46
Spot-clean walls and doors	A/D 0.99	W 0.40	Q 0.03	S/A 0.02	0.00	1.98
Sweep, dust-mop stairs and landings	D 4.10	A/D 2.05	A/D 2.05	A/D 2.05	W 0.82	4.10
Adjusted Minutes subtotal	8.58	3.86	3.20	2.36	0.93	
CSF/Custodian	10,187	22,657	27,330	37,032	93,830	
Project Activities	Level 1	Level 2	Level 3	Level 4	Level 5	Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Clean windows	S/A 0.01	S/A 0.01	A 0.01	0.00	0.00	1.53
Perform interim floor care	Q 0.58	Q 0.58	Q 0.58	S/A 0.29	0.00	36.00
Project-clean light fixtures	S/A 0.03	S/A 0.03	A 0.02	0.00	0.00	4.22
Strip/refinish floors	A 0.21	A 0.21	A 0.21	A 0.21	0.00	51.63
Adjusted Minutes subtotal	0.83	0.83	0.81	0.49	0.00	
CSF/Custodian	105,253	105,253	107,852	178,286		
Total Adjusted minutes	9.40	4.68	4.00	2.85	0.93	
Total CSF/Custodian	9,290	18,649	21,829	30,614	93,830	

Frequency Codes/Daily Adjustment Factor

D — Daily / 1.00  
 A/D — Alternate Days / 0.50  
 W — Weekly / 0.20  
 M — Monthly / 0.048

Q — Quarterly / 0.016  
 S/A — Semiannually / 0.008  
 A — Annually / 0.004  
 D/A — Daily adjusted (see note)

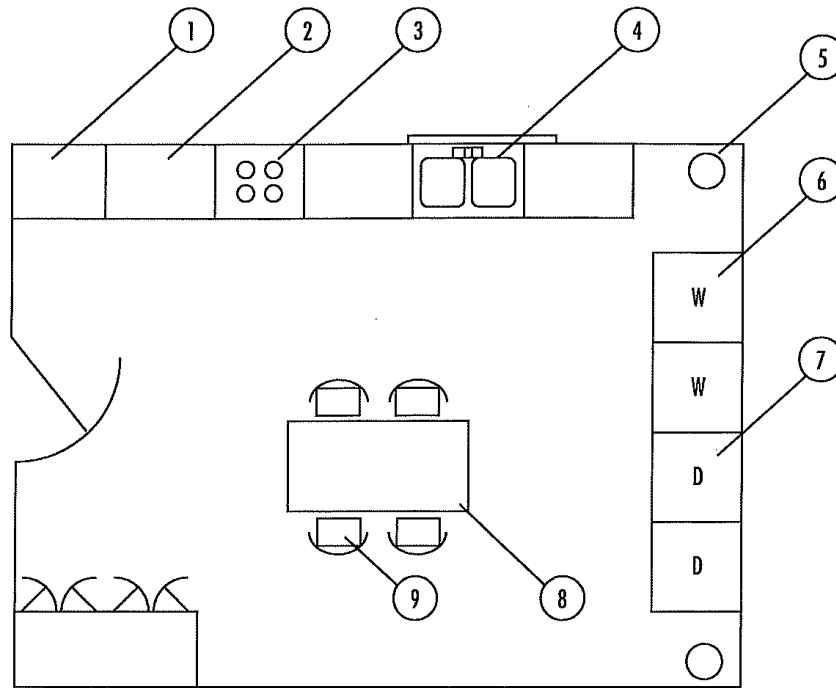
Square feet per custodian based on 420 productive minutes per day.

Adjusted minutes are for 208 cleanable square feet (CSF).

## APPENDIX E

### Standard Space Category Matrices

#### Utility



#### Construction

Floor: 15' x 20' vinyl tile (300 SF)  
 Walls: Gypsum (8' high) semi-gloss paint  
 Ceiling: Exposed dropped grid  
 Vents: 2 - Wall, 2' x 2'  
 Lighting: 6 - Two-tube 1' x 4' fluorescent  
 Door: 36" painted metal  
 Window: 4' x 4' above sink  
 Floor Drain: Near sink and washers  
 Closet: 2' x 5' with bi-fold metal doors

#### Features

1. Refrigerator  
 2. 3 - 2' x 3' Formica counters  
 3. Electric range with microwave and vent above  
 4. Double bowl stainless steel sink  
 5. 2 - Torpedo waste containers  
 6. 2 - Automatic washers  
 7. 2 - Automatic dryers  
 8. 2-½' x 5' Formica top table  
 9. 4 - Metal/vinyl washable chairs

## APPENDIX E

### Standard Space Category Matrices

#### Utility Matrix

Routine Activities	Frequency Adjusted Time					Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Spray-buff/burnish floors	A/D 5.36	W 2.14	M 0.51	Q 0.17	0.00	10.72
Sweep, dust-mop floor, straighten furniture	D 5.10	D 5.10	A/D 2.55	A/D 2.55	W 1.02	5.10
Damp-mop floors	D 5.54	D 5.54	A/D 2.77	W 1.11	M 0.27	5.54
Relamp	D/A 0.02	D/A 0.02	D/A 0.02	D/A 0.02	D/A 0.02	3.46
Empty waste containers	D 1.06	D 1.06	D 1.06	A/D 0.53	W 0.21	1.06
Clean sink	D 3.13	D 3.13	D 3.13	A/D 1.57	W 0.63	3.13
Dust furniture and flat surfaces	D 4.21	A/D 2.11	W 0.84	M 0.20	0.00	4.21
Adjusted Minutes subtotal	24.42	19.10	10.89	6.14	2.14	
CSF/Custodian	5,160	6,598	11,576	20,506	58,829	
Project Activities	Frequency Adjusted Time					Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Project-clean table and chairs	Q 0.08	Q 0.08	S/A 0.04	A 0.02	0.00	5.02
Clean windows, both sides	S/A 0.04	A 0.02	A 0.02	0.00	0.00	5.28
Dust vents	W 0.28	M 0.07	Q 0.02	S/A 0.01	0.00	1.40
Project-clean all light fixtures	S/A 0.07	A 0.03	A 0.03	A 0.03	A 0.03	8.70
Strip/refinish floors	S/A 0.66	S/A 0.66	A 0.33	A 0.33	A 0.33	82.32
Clean trash containers	W 0.42	M 0.10	Q 0.03	S/A 0.02	0.00	2.10
Spot-clean walls and doors	W 0.88	M 0.21	Q 0.07	S/A 0.04	0.00	4.40
Interim floor care	Q 0.71	Q 0.71	S/A 0.36	0.00	0.00	44.53
Adjusted Minutes subtotal	3.14	1.89	0.91	0.45	0.36	
CSF/Custodian	40,127	66,667	138,462	280,000	350,000	
Total Adjusted minutes	27.56	20.98	11.79	6.59	2.51	
Total CSF/Custodian	4,571	6,005	10,684	19,114	50,282	

Frequency Codes/Daily Adjustment Factor

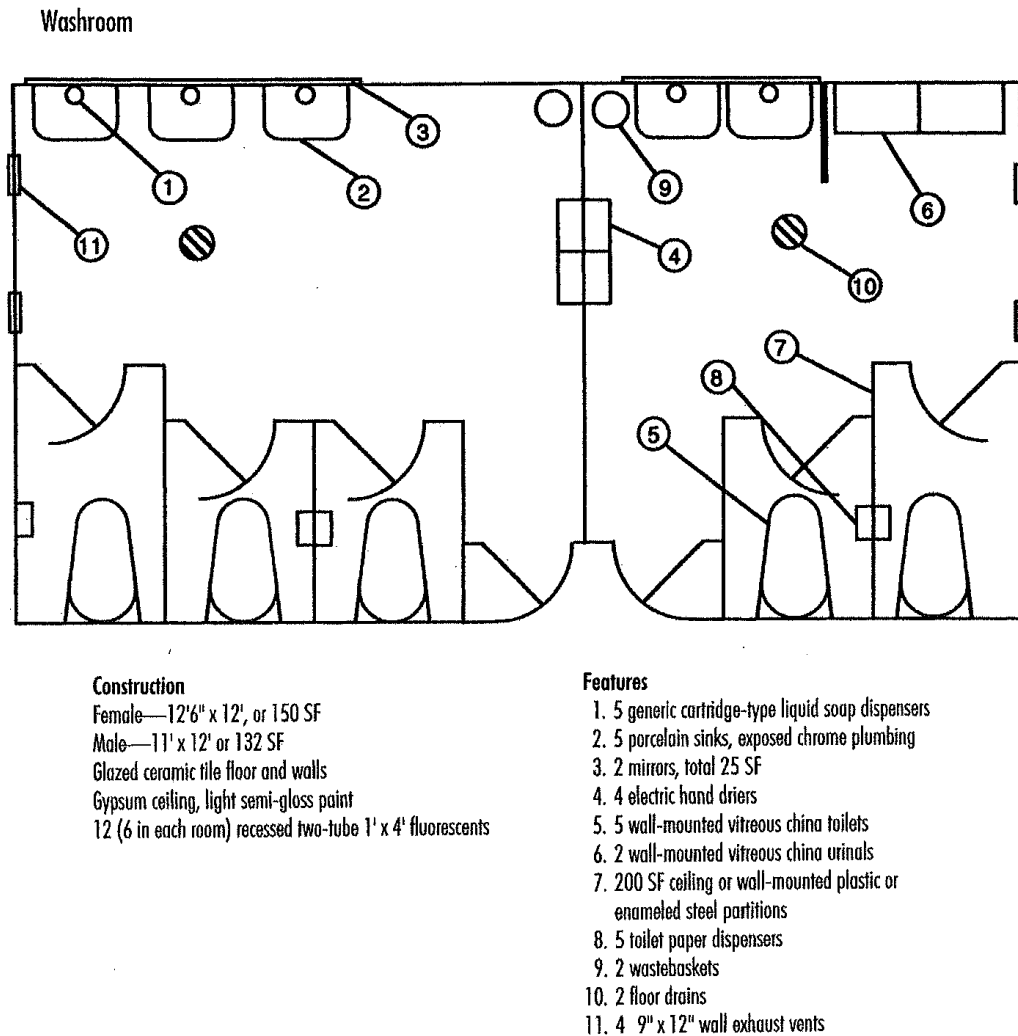
D — Daily / 1.00	Q — Quarterly / 0.016
A/D — Alternate Days / 0.50	S/A — Semiannually / 0.008
W — Weekly / 0.20	A — Annually / 0.004
M — Monthly / 0.048	D/A — Daily adjusted (see note)

Square feet per custodian based on 420 productive minutes per day.

Adjusted minutes are for 300 cleanable square feet (CSF).

## APPENDIX E

### Standard Space Category Matrices



## APPENDIX E

### Standard Space Category Matrices

#### Washroom Matrix

Routine Activities	Frequency Adjusted Time					Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Clean mirrors	D 1.54	D 1.54				1.54
Clean partitions and doors	D 7.64	W 1.53				7.64
Clean wash bowls	D 7.56	D 7.56				7.56
Clean/disinfect toilet bowls	D 7.86	D 7.86				7.86
Clean/disinfect urinal	D 2.79	D 2.79				2.79
Dust open, flat surfaces	D 0.30	W 0.06				0.30
Empty waste containers	D 0.87	D 0.87				0.87
Relamp	D/A 0.03	D/A 0.03				3.46
Restock soap and toilet paper	D 6.11	D 6.11				6.11
Spot-clean walls and doors	D 2.81	W 0.56				2.81
Sweep, dust-mop floors	D 3.31	D 3.31				3.31
Wet and scrub floors	D 4.53	W 0.91				4.53
Adjusted Minutes subtotal	45.36	33.13				
CSF/Custodian	2,611	3,575				
Project Activities	Level 1	Level 2	Level 3	Level 4	Level 5	Base Time
Clean trash containers	W 0.27	M 0.06				1.34
Dust vents	M 0.06	M 0.06				1.35
Project-clean light fixtures	Q 0.23	S/A 0.12				14.60
Adjusted Minutes subtotal	0.57	0.25				
CSF/Custodian	207,789	473,760				
Total Adjusted minutes	45.93	33.38				
Total CSF/Custodian	2,579	3,549				

Frequency Codes/Daily Adjustment Factor

D — Daily / 1.00  
 A/D — Alternate Days / 0.50  
 W — Weekly / 0.20  
 M — Monthly / 0.048  
 Q — Quarterly / 0.016  
 S/A — Semiannually / 0.008  
 A — Annually / 0.004  
 D/A — Daily adjusted (see note)

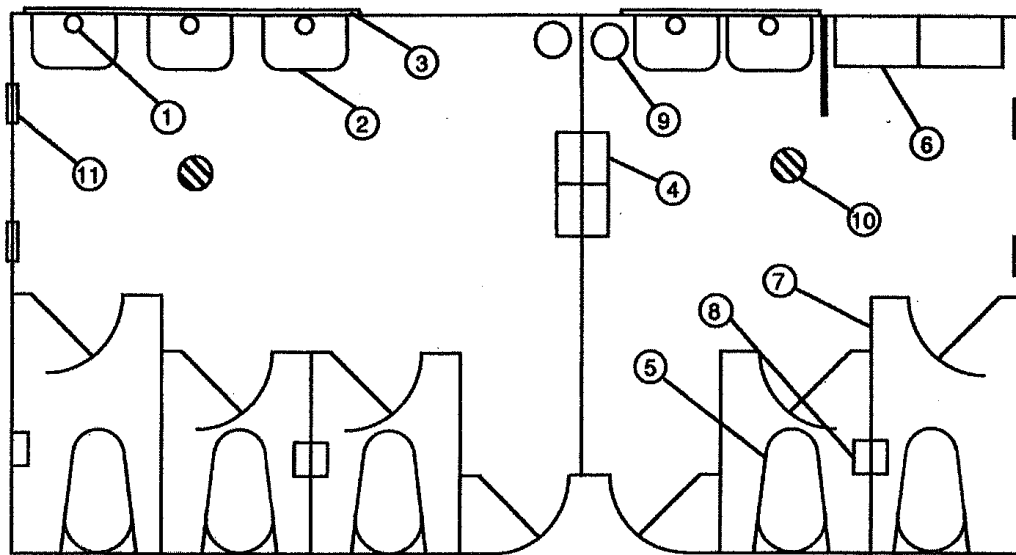
Square feet per custodian based on 420 productive minutes per day.

Adjusted minutes are for 282 cleanable square feet (CSF).

## APPENDIX E

### Standard Space Category Matrices

Washroom – Heavy Use



#### Construction

Female—12'6" x 12', or 150 SF

Male—11' x 12' or 132 SF

Glazed ceramic tile floor and walls

Gypsum ceiling, light semi-gloss paint

12 (6 in each room) recessed two-tube 1' x 4' fluorescents

#### Features

1. 5 generic cartridge-type liquid soap dispensers

2. 5 porcelain sinks, exposed chrome plumbing

3. 2 mirrors, total 25 SF

4. 4 electric hand driers

5. 5 wall-mounted vitreous china toilets

6. 2 wall-mounted vitreous china urinals

7. 200 SF ceiling or wall-mounted plastic or enameled steel partitions

8. 5 toilet paper dispensers

9. 2 wastebaskets

10. 2 floor drains

11. 4 9" x 12" wall exhaust vents

Note: Heavy use areas are identical in appearance to their "normal use" counterparts except that added daily cleaning activities are scheduled due to the heavy use.



## APPENDIX E

### Standard Space Category Matrices

#### Washroom – Heavy Use Matrix

Routine Activities	Frequency Adjusted Time					Base Time
	Level 1	Level 2	Level 3	Level 4	Level 5	
Clean mirrors	D 1.54	TD 3.07				1.54
Clean partitions and doors	TD 15.28	W 1.53				7.64
Clean wash bowls	TD 15.13	TD 15.13				7.56
Clean/disinfect toilet bowls	TD 15.73	TD 15.73				7.86
Clean/disinfect urinal	TD 5.59	TD 5.59				2.79
Dust open, flat surfaces	TD 0.61	W 0.06				0.30
Empty waste containers	TD 1.75	TD 1.75				0.87
Relamp	D/A 0.03	D/A 0.03				3.46
Restock soap and toilet paper	TD 12.21	TD 12.21				6.11
Spot-clean walls and doors	TD 5.62	W 0.56				2.81
Sweep, dust-map floors	TD 6.62	TD 6.62				3.31
Wet-and scrub floors	TD 9.07	W 0.91				4.53
Adjusted Minutes subtotal	89.16	63.18				
CSF/Custodian	1,328	1,875				
Project Activities	Level 1	Level 2	Level 3	Level 4	Level 5	Base Time
Clean trash containers	W 0.27	M 0.06				1.34
Dust vents	M 0.06	M 0.06				1.35
Project-clean light fixtures	Q 0.23	S/A 0.12				14.60
Adjusted Minutes subtotal	0.57	0.25				
CSF/Custodian	207,789	473,760				
Total Adjusted minutes	89.72	63.42				
Total CSF/Custodian	1,320	1,868				

**Frequency Codes/Daily Adjustment Factor**

D — Daily / 1.00      Q — Quarterly / 0.016  
 A/D — Alternate Days / 0.50      S/A — Semiannually / 0.008  
 W — Weekly / 0.20      A — Annually / 0.004  
 M — Monthly / 0.048      D/A — Daily adjusted (see note)

Square feet per custodian based on 420 productive minutes per day.

Adjusted minutes are for 282 cleanable square feet (CSF).

## APPENDIX F

### Recommended FTE Calculations

APPA Standard Space	Primary	Lower	Middle (Main)	Middle (Arts)	Middle (Dining)	Campfield	Jane Woodruff	Moss Hall	Carlos Science	Brand Hall
Cafeteria with hard floor	6,311	5,551	0	0	10,346	2,960	0	0	0	2,296
Cafeteria with carpet	22,546	31,856	33,589	0	0	0	47,600	17,800	0	0
Classroom with hard floor	3,826	8,446	8,019	4,002	0	0	0	6,210	12,365	12,268
Entranceway	774	1,105	1,388	1,080	0	0	5,747	148	0	0
Library with carpet	2,571	2,945	0	0	0	0	0	0	0	0
Locker/changing room	295	768	0	0	0	0	0	0	0	0
Nursing station with hard floor	106	470	891	0	0	0	952	0	0	0
Office with carpet	3,519	3,158	4,211	0	0	0	4,436	2,244	986	0
Office with hard floor	0	0	3,222	0	60	0	100	0	0	497
Public (circulation) with carpet	7,482	6,900	0	0	0	0	850	0	2,640	0
Public (circulation) with hard floor	0	0	8,812	322	0	0	18,430	8,407	0	3,600
Stairwell	638	2,475	3,510	0	0	0	2,640	1,980	720	1,440
Utility	205	385	0	0	0	0	1,690	0	2,471	0
Washroom	1,412	245	271	0	0	0	675	297	0	350
Washroom (heavy use)	859	2,420	1,650	420	446	410	2,640	1,311	600	828
APPA Standard Space	Carlos Library	Woodruff Dining	Carlos Admin	Facilities Bldg	Student Transport	Total CSF	Standard Space Cleanliness Level	CSF per FTE	APPA FTE	
Cafeteria with hard floor	0	9,302	0	3,520	2,814	43,100	2	19145	2,251	
Classroom with carpet	1,612	0	1,932	330	1,336	158,601	2	32931	4,816	
Classroom with hard floor	0	0	576	0	0	55,712	2	22963	2,426	
Entranceway	216	0	0	0	233	10,691	2	9163	1,167	
Library with carpet	7,975	0	0	0	0	13,491	2	56112	0,240	
Locker/changing room	0	0	0	0	0	1,063	1	14526	0,073	
Nursing station with hard floor	0	0	0	0	0	2,419	1	7389	0,327	
Office with carpet	1,928	760	4,640	3,995	1,994	31,871	2	30450	1,047	
Office with hard floor	0	0	0	144	0	4,023	2	21007	0,192	
Public (circulation) with carpet	1,360	0	1,305	1,076	325	21,938	2	65703	0,334	
Public (circulation) with hard floor	0	360	1,180	0	1,213	42,324	2	27612	1,533	
Stairwell	720	144	620	288	0	15,175	2	22657	0,670	
Utility	0	0	0	0	0	4,751	3	11576	0,410	
Washroom	64	0	85	288	351	4,038	1	2611	1,547	
Washroom (heavy use)	640	576	184	402	0	13,386	1	1328	10,080	
						422,583	CSF	FTE	27.11	

## Recommended FTE Calculations

[illegible]

## APPENDIX G

### WA CURRENT STAFFING LEVEL

<b>Building Name</b>	<b>Staffing</b>	<b>Total hours</b>	<b>FTE</b>
Primary	4	28.0	4.00
Lower	4	28.0	4.00
Middle (Main)	5	35.0	5.00
Middle (Arts)	1	5.5	0.79
Middle (Dining)	4	6.5	0.93
Campfield	1	2.0	0.29
Jane Woodruff	7	38.5	5.50
Moss Hall	4	22.0	3.14
Carlos Science	2	11.0	1.57
Brand Hall	2	11.0	1.57
Carlos Library	1	5.5	0.79
Woodruff Dining	2	4.0	0.57
Carlos Admin	3	7.5	1.07
Facilities Bldg	2	4.0	0.57
Student Transport	3	6.0	0.86
		<b>CURRENT FTE</b>	<b>30.64</b>